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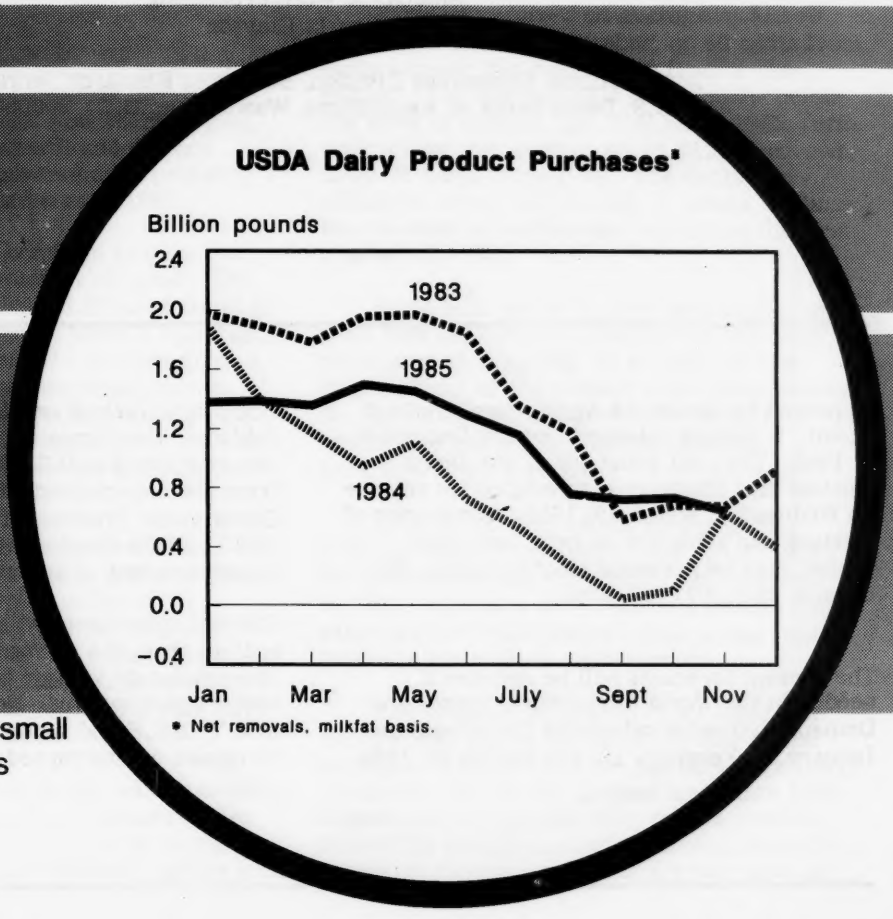

Purchases show small seasonal declines

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The present forecasts will be updated if needed in the World Agricultural Supply and Demand Estimates scheduled for release on January 10, February 10, and March 10, 1986.

The *Dairy Outlook and Situation* will be published five times in 1986. Annual subscription: $13 U.S., $16.25 foreign. Order from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Make checks payable to the Superintendent of Documents.

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SUMMARY

Government dairy product purchases increased sharply in 1985 after declining a year earlier, and the surplus is likely to continue large in 1986, assuming a support price of $11.60 per cwt and no diversion or buyout program. However, dairy provisions in the pending Farm Bill could alter this outlook.

Surplus removals (net purchases) by the Commodity Credit Corporation (CCC) in 1984 were equivalent to 8.6 billion pounds of milk (fat basis), down by nearly half from 1983 because of larger commercial disappearance and lower milk marketings reflecting lower production and additional farm use. This year, milk marketings likely grew by 6.3 percent and commercial disappearance is up, but only about 2.2 percent. Thus, USDA net removals are expected to be 13.5 billion pounds, up 57 percent from 1984.

Calendar 1986 production and marketings are projected to be 2 to 5 percent larger than 1985. Better management, new technologies, and genetic advancement will add upward pressure on yields, but cow numbers probably will average about the same as in 1985.

Retail dairy prices continue to ease downward from the February 1985 peak. The Bureau of Labor Statistics (BLS) index stood at 257.1 (1967=100) in October, down 0.3 percent from February and up only 0.4 percent from a year earlier. The October increase from a year earlier was the smallest thus far in 1985 and considerably less than the 3.2 percent rise for all items and the 1.8 percent increase for all foods.

Prices of dairy products at retail have not fully reflected declines at farm and wholesale levels. Retail margins have widened significantly in 1985 after several years of modest increases. Part of the widening can be attributed to typical sluggishness in retail prices. Brisk sales of dairy products may have further slowed price declines.

Retail dairy prices probably will be stable or decline in coming months if support prices are not changed. Wholesale to retail margins may be whittled down and wholesale prices are unlikely to budge from support levels. This would leave retail prices in early 1986 just slightly below a year earlier. For all of 1986, an unchanged support price would likely leave retail prices steady to down slightly, following this year's 2-percent increase.

The (BLS) index of wholesale dairy prices stood at 245.5 (1967=100) in October, down 4 percent from a year earlier. The fluid milk index was down almost 2 percent but ice cream was about the same as a year ago.

Under the expected 1986 supply-demand conditions, wholesale prices will be dominated by the price support program. Price movements likely will be limited to minor adjustments around support purchase prices.

Farmers received an average of $12.70 per cwt of milk in November, up 60 cents from early summer but down $1.60 from a year earlier. The average milk price is now below the level of 6 years ago. For all of 1985, farm milk prices will average about $12.75 per cwt, down 70 cents from 1984. The decline in effective prices will be only 32 cents, because the 50-cent deduction applied just to the first quarter of 1985.

Farm milk prices in 1986 will depend on what new legislation mandates for the dairy price support program. In addition to the direct effect of the support price specified by the law, milk prices will be affected by whether or not the legislation contains programs to curb output.

Sales of dairy products surged during July-October. Commercial use of milk and dairy products was 4.8 percent above a year earlier. Increases were felt on a broad front; sales of fluid milk, butter, cheese, and frozen products were all up significantly.

Last summer's boost in dairy sales was exceptional only in terms of the size of the increase. Commercial use has been on a fairly consistent and strong uptrend since late 1983. Steadily declining real dairy prices, steadily improving economic conditions, and recently expanded promotion efforts are the roots of

the uptrend. These factors probably will continue to favor dairy product sales in 1986.

Commercial use for all of 1985 is now expected to be more than 2 percent higher than 1984 and almost 6 percent above 1983. The 1983–85 growth would be the strongest in 3 decades. The 1986 growth in dairy sales may not quite match this year's but is expected to be 1–3 percent.

Larger milk marketings have boosted the amount of milk used for manufactured products in 1985. However, the increase in manufactured output has trailed the rise in marketings because of larger fluid milk sales. Milk used to produce butter and American cheese during January–October totaled 1.9 billion pounds less than during 1983, despite larger marketings. Total milk used in manufacturing for all of 1985 probably will slip past the 1983 level to post a new record.

Cow's milk production in the 38 major countries is expected to increase 1 percent in 1985. The United States is currently registering a sharp gain in output as is the Soviet Union, India, and mainland China. Partially offsetting these gains is a decline in the European Community's milk output. The global outlook for 1986 is for milk production to rise another 1 percent. More milk is being forecast for the United States, the Soviet Union, and India, while milk output for the EC and Poland is expected to decline.

PRODUCTION

Expansion Continues

Gains in milk production from a year earlier accelerated from the end of the diversion program until September's 11 percent before slipping back to 10 percent in October. However, October's 12.0 billion pounds was a record for the month and resulted from 7 percent more milk per cow and 3 percent more cows. The higher yield was the result of the much improved milk–feed price relationships and no paid diversion program.

Of 33 States surveyed during October, all posted gains in production from a year earlier. Of the five leading States, New York (ranked 3rd) had production up the least, 6.2 percent. Meanwhile, Wisconsin (1st) and California (2nd) were both about 12 percent above a year earlier, while Minnesota (4th) and Pennsylvania (5th) had gains in total output of 9.9 and 10.7 percent, respectively.

1984 Production Down 3 Percent

Milk production dipped to 135.4 billion pounds in 1984, down 3 percent from the record 139.7 billion in 1983. This was the first decline in annual output since 1978 and the largest drop since 1973. The decrease resulted from the milk diversion program, as well as from lower average milk prices and higher feed costs.

Declines in 1984 from a year earlier sharpened from 2 percent (daily average basis) in the first quarter to 3 percent in the second quarter and 4 percent in the last two quarters. This pattern reflected both the time needed for participants in the diversion program to adjust their production and the cumulative effect of deterioration in milk–feed price relationships.

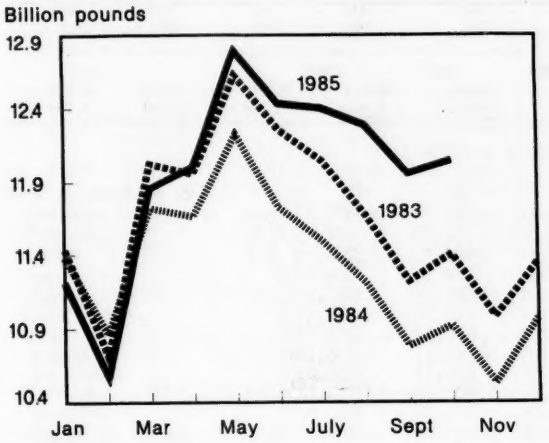
Milk production in 1985, compared with 1983, has exhibited the opposite pattern. In the first quarter, production was down 2 percent, but up 1 percent in the second, and 5 percent higher in the third. Production will likely be up 6 percent this quarter. The 1985 pattern was a mirror image of 1984 because the dominant factors were reversed; milk–feed price relationships were improved and participants rebuilt production after the program.

Feed and Forage Prices Lower

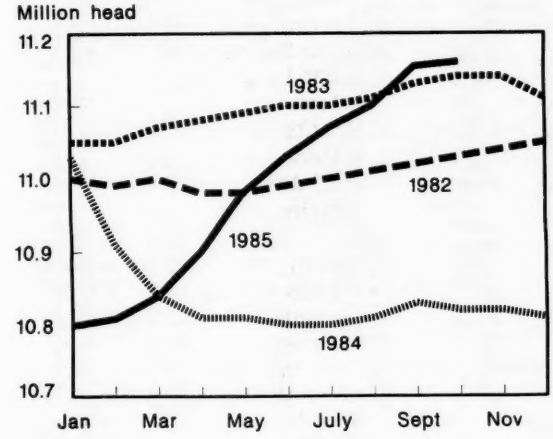
In general, the average price paid by farmers for 16–percent protein dairy feed has declined since January 1984. The mid–November 1985 price averaged $163 per ton, down $14 from January 1985 and $42 (20 percent) from January 1984. Compared with a year earlier, the October price was down $14 (8 percent).

With milk prices declining proportionally more than feed prices, the milk–feed price ratio declined from 1.58 in January to 1.44 in

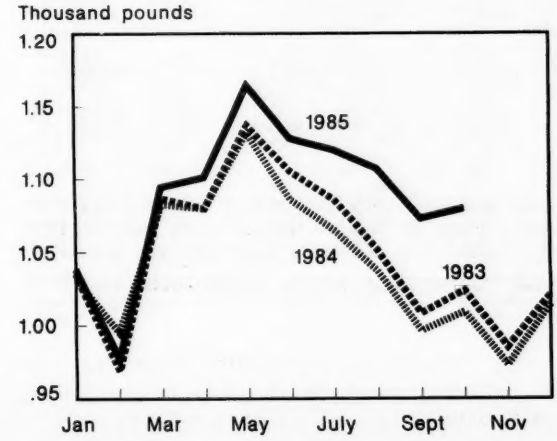
U.S. Milk Production



Milk Cows on Farms



Milk Production per Cow



June. However, the ratio remained unchanged in July and improved from August through November. Compared with a year earlier, the dairy farmer during November was able to buy 6 pounds (4 percent) less concentrate for each cwt of milk sold. However, if adjusted for the 50–cent–per–cwt deduction in effect last year, the milk–feed price ratio was the same as November 1984. Thus, it appears likely that the ratio was favorable to continued relatively heavy rates of concentrate feeding. The feeding rate for grain and other concentrates on October 1 averaged 15.9 pounds per cow, up 5 percent from a year earlier. The milk–feed price ratio is expected to remain conducive to heavy concentrate feeding through at least late summer 1986.

The 1985 U.S. corn crop will be much larger than use and carryout stocks for 1985/86 are projected to be 3.1 billion bushels, more than twice carryin stocks of 1.4 billion. This is expected to result in average farm corn prices for 1985/86 (October–September) of $2.35 to $2.55 per bushel. In addition, the level of prices in second–half 1986 will depend on the 1986/87 supply–use balance and the level of support (loan) in the new farm bill. The season average price for 1984/85 was about $2.65 per bushel, compared with a 1983/84 average of $3.25.

The 1985 soybean crop is also expected to be larger than use, increasing stocks and keeping prices low. For 1985/86, farm level prices are expected to be $5.00 to $5.30 per bushel, compared with $5.85 in 1984/85 and $7.81 in 1983/84. Prices of soybean meal (Decatur) are projected to be between $120 and $150 per ton in 1985/86. They averaged $125.40 per ton in 1984/85 and were $188.20 in 1983/84.

May 1 stocks of hay were reported at 26.9 million short tons, one–third more than a year earlier. With almost 62 million acres harvested in 1985 and a yield of 2.45 tons per acre, production is forecast at 151.2 million tons. Use is expected to be about 140 million tons, down 3 percent, because of fewer roughage consuming animal units in 1985/86. With larger supplies and weaker use, the season average price thir year is expected to be $5 to $10 per ton below the May 1983 to April 1984 average of $73.80.

Table 1.—U.S. dairy situation at a glance

Item	Unit or base period	Quarterly data					
		3nd 1983	3rd 1984	4th 1984	1st 1985	2nd 1985	3rd 1985
Production and cow numbers:							
Total milk	Mil. lb	34,936	33,468	32,414	33,632	37,231	36,654
Milk per cow	Lb	3,144	3,097	2,996	3,109	3,393	3,299
Number of milk cows	Thou.	11,112	10,809	10,819	10,817	10,971	11,109
Prices received by farmers:							
All milk, sold to plants, 100 pounds	Dol	13.33	13.27	14.10	13.67	12.50	12.17
Percentage of parity 1/	Pct	55	58	56	55	52	51
Manufacturing grade milk, 100 pounds	Dol	12.33	12.37	13.17	12.60	11.60	11.17
Parity equivalent	Dol	20.11	21.32	21.23	21.53	21.56	21.34
Fat content	Pct	3.53	3.56	3.84	3.78	3.59	3.56
Minnesota-Wisconsin (3.5% fat), 100 pounds	Dol	12.49	12.37	12.63	12.19	11.43	11.10
Milk eligible for fluid market, 100 pounds	Dol	13.50	13.40	14.23	13.87	12.67	12.30
Price ratio and dairy ration value:							
Milk/16-percent feed price relationship	Lb	1.41	1.40	1.59	1.57	1.47	1.47
Value of concentrate ration fed, milk cows	Dol	7.80	8.46	7.95	7.54	7.49	7.43
Farm cash receipts from dairy products	Mil. dol	4,622	4,385	4,413	4,523	4,614	4,425
Production of factory products:							
Butter	Mil. lb	260.7	210.4	259.3	333.1	321.1	279.6
American cheese, whole milk	Mil. lb	698.9	610.8	591.7	655.7	788.2	722.1
Cheese other than American	Mil. lb	457.5	498.2	554.5	501.8	528.1	536.1
Canned milk, unskimmed	Mil. lb	167.2	159.9	159.2	138.1	178.9	162.5
Dry whole milk	Mil. lb	26.4	28.4	27.5	36.9	34.9	37.9
Frozen products 2/	Mil. gal	368.4	355.3	253.2	260.7	354.5	369.8
Creamed cottage cheese	Mil. lb	196.2	188.7	168.3	177.8	190.0	188.2
Total (milkfat basis) 3/	Mil. lb	20,203	17,943	17,656	19,302	22,424	21,349
Nonfat dry milk, human use	Mil. lb	370.8	265.6	224.7	284.1	409.1	379.4
Wholesale prices:							
Butter, Grade A, Chicago, pound	Ct	148.7	154.8	153.9	141.3	141.9	141.1
Cheese, American (40-pound blocks), f.o.b. Wisconsin assembling points, pound	Ct	137.7	139.9	140.3	134.3	128.2	124.4
Evaporated milk, case	Dol	22.23	22.23	22.23	22.23	22.36	22.24
Nonfat dry milk, pound, f.o.b. Central States, high heat	Ct	93.4	90.7	91.3	90.4	84.2	81.0
Dairy products (BLS)	1967=100	250.5	252.5	256.7	254.2	250.3	247.2
Retail prices (BLS):							
Consumer price index 4/	1967=100	300.5	313.1	315.4	317.4	321.2	323.6
All food 4/	1967=100	292.3	304.1	304.5	308.8	309.3	309.7
All dairy products 4/	1967=100	250.1	253.3	257.2	259.0	258.2	257.7
Fluid milk and cream	12/77=100	136.3	137.0	139.6	140.6	139.9	139.1
Whole milk	1967=100	222.9	223.7	228.4	229.7	228.8	227.6
Other	12/77=100	136.5	138.0	139.9	141.2	140.3	139.3
Manufactured dairy products	12/77=100	148.5	151.8	153.6	154.6	154.4	155.0
Butter	1967=100	253.8	263.9	269.0	265.1	261.7	262.7
Cheese	12/77=100	146.7	148.4	149.9	150.5	150.2	151.3
Frozen desserts	12/77=100	152.8	158.0	159.4	162.3	162.4	162.3
Other	12/77=100	145.5	148.8	151.1	152.9	154.6	154.8
Margarine	1967=100	258.7	295.3	295.3	297.5	299.0	306.1
Stocks, end of quarter:							
Creamery butter	Mil. lb	589.6	516.7	426.3	296.5	291.7	286.8
Cheese total 5/	Mil. lb	1,213.3	1,288.2	1,211.1	1,061.9	975.3	1,032.4
Canned milk, unskimmed	Mil. lb	76.7	91.2	103.9	42.0	50.7	98.3
Dry whole milk	Mil. lb	5.8	8.6	7.1	5.4	7.8	6.3
Total (milkfat basis) 6/	Mil. lb	24,017	23,332	20,742	16,429	15,510	16,045
Nonfat dry milk	Mil. lb	1,411.4	1,429.7	1,348.6	1,247.6	1,111.7	1,085.0
Commercial disappearance:							
Creamery butter	Mil. lb	217.0	215.6	251.9	205.7	205.0	244.5
Cheese, American	Mil. lb	500.2	564.4	571.3	515.2	564.7	587.1
Cheese, other than American	Mil. lb	521.1	582.9	637.2	558.5	585.8	613.4
Canned milk, unskimmed	Mil. lb	144.5	143.6	219.7	125.7	127.0	139.6
Milk in all products	Mil. lb	31,959	33,020	32,137	29,342	32,414	34,591
Nonfat dry milk	Mil. lb	122.4	141.6	120.1	104.7	89.8	128.9
USDA net removals:							
Butter	Mil. lb	44.3	1.5	10.3	128.7	107.9	45.4
Cheddar cheese	Mil. lb	221.4	81.0	34.8	145.8	201.9	168.4
Nonfat dry milk	Mil. lb	270.3	146.0	97.0	177.6	290.6	263.4
Evaporated milk	Mil. lb	6.8	5.1	2.8	7.1	7.0	7.3
Total (milkfat basis)	Mil. lb	3,117	842	562	4,113	4,237	2,617

1/ Seasonally adjusted prices as percentage of parity price. 2/ Ice cream, ice milk, and sherbet. 3/ Includes manufactured products for which current data are available. 4/ For all urban consumers starting January 1978. 5/ Natural plus processed American cheese held by CCC. 6/ Excludes cream and bulk condensed milk.

Table 2.--Milk production, milk per cow, and milk cows on farms, by months, 1982-85, with comparisons

Item	1982	1983	1984	1985 1/	Change from year earlier			
					1982	1983	1984	1985
	Million pounds				Percent			
Milk production 2/								
January	11,106	11,443	11,375	11,209	+2.8	+3.0	-0.6	-1.5
February	10,361	10,707	10,855	10,566	+2.1	+3.3	+1.4	-2.7
March	11,700	12,029	11,723	11,857	+1.6	+2.8	-2.5	+1.1
April	3/11,607	11,956	11,662	12,007	+0.7	+3.0	-2.5	+3.0
May	3/12,191	12,616	12,227	12,790	+0.9	+3.5	-3.1	+4.6
June	3/11,781	12,261	11,720	12,434	+2.0	+4.1	-4.4	+6.1
July	3/11,618	12,046	11,485	12,403	+2.3	+3.7	-4.7	+8.0
August	3/11,370	11,672	11,206	12,291	+2.4	+2.7	-4.0	+9.7
September	3/10,939	11,218	10,777	11,960	+3.0	+2.6	-3.9	+11.0
October	3/11,053	11,400	10,918	12,046	+2.7	+3.1	-4.2	+10.3
November	3/10,644	10,979	10,529		+2.4	+3.1	-4.1	
December	3/11,135	11,345	10,967		+2.2	+1.9	-3.3	
Total 4/	135,505	139,672	135,444		+2.1	+3.1	-3.0	
	Pounds				Percent			
Milk per cow 2/								
January	1,010	1,035	1,032	1,038	+1.4	+2.5	-3.0	+0.6
February	943	969	995	977	+0.9	+2.8	+2.7	-1.8
March	1,064	1,086	1,082	1,094	+0.3	+2.1	-0.4	+1.1
April	3/1,057	1,079	1,079	1,101	-0.5	+2.1	0.0	+2.0
May	3/1,110	1,137	1,132	1,164	-0.1	+2.4	-0.4	+2.8
June	3/1,072	1,105	1,085	1,128	+0.9	+3.1	-1.8	+4.0
July	3/1,056	1,085	1,064	1,120	+1.1	+2.7	-1.9	+5.3
August	3/1,033	1,051	1,037	1,107	+1.5	+1.7	-1.3	+6.7
September	3/993	1,008	996	1,072	+2.2	+1.5	-1.2	+7.6
October	3/1,002	1,024	1,009	1,079	+1.9	+2.2	-1.5	6.9
November	3/964	985	973		+1.7	+2.2	-1.2	
December	3/1,008	1,021	1,014		+1.7	+1.3	-0.7	
Total 4/	12,306	12,585	12,495		+1.0	+2.3	-0.7	
	Thousands				Percent			
Milk cows on farms 5/								
January	10,997	11,051	11,026	10,801	+1.4	+0.5	-0.2	-2.0
February	10,993	11,051	10,910	10,811	+1.3	+0.5	-1.3	-0.9
March	10,996	11,073	10,839	10,839	+1.3	+0.7	-2.1	0.0
April	3/10,981	11,078	10,810	10,903	+1.1	+0.9	-2.4	+0.9
May	3/10,983	11,093	10,805	10,984	+1.0	+1.0	-2.6	+1.7
June	3/10,990	11,095	10,801	11,025	+1.0	+1.0	-2.6	+2.1
July	3/11,001	11,103	10,796	11,070	+1.1	+0.9	-2.8	+2.5
August	3/11,006	11,107	10,807	11,103	+0.9	+0.9	-2.7	+2.7
September	3/11,015	11,126	10,825	11,154	+0.8	+1.0	-2.7	+3.0
October	3/11,031	11,138	10,821	11,160	+0.8	+1.0	-2.8	+3.1
November	3/11,042	11,142	10,823		+0.7	+0.9	-2.9	
December	3/11,047	11,113	10,814		+0.6	+0.6	-2.7	
Annual average	11,011	11,098	10,840		+1.0	+0.8	-2.3	

1/ Preliminary. 2/ Excludes milk sucked by calves. 3/ ERS derived data consistent with published official USDA quarterly estimates. No monthly data for an individual State or region are available. 4/ May not add because of rounding. 5/ Excludes heifers not yet fresh.

Table 3.--U.S. milk production and factors affecting supply, selected years, 1965-85

Year	Milk cattle on farms, January 1			Milk cows on farms, average during year	Milk production		Average prices received by farmers per cwt		
	Milk cows and heifers that have calved	Milk cow replacements; heifers 500 pounds and over			Per cow	Total	All milk, wholesale	Milk eligible for fluid market	Milk, manufacturing grade
	Thousand		Number per 100 cows	Thousand	Pounds	Million pounds	Dollars		
1965	15,380	4,780	31.1	14,953	8,305	124,180	4.23	4.63	3.34
1970	12,091	3,880	32.1	12,000	9,751	117,007	5.71	6.05	4.70
1975	11,220	4,087	36.4	11,139	10,360	115,398	8.75	9.02	7.63
1976	11,071	3,956	35.7	11,032	10,894	120,180	9.66	9.93	8.56
1977	10,998	3,887	35.3	10,945	11,206	122,654	9.72	9.96	8.70
1978	10,896	3,886	35.7	10,803	11,243	121,461	10.58	10.79	9.65
1979	10,790	3,932	36.4	10,743	11,488	123,411	12.03	12.23	11.09
1980	10,779	4,158	38.6	10,810	11,889	128,525	13.05	13.21	12.05
1981	10,860	4,345	40.0	10,923	12,177	133,013	13.76	13.94	12.73
1982	11,012	4,532	41.2	11,033	12,309	135,802	13.59	13.73	12.66
1983	11,047	4,545	41.1	11,120	12,587	139,968	13.57	13.72	12.63
1984 1/	11,109	4,532	40.8	10,875	12,505	136,100	13.45	13.58	12.54
1985 2/	10,819	4,757	44.0	11,115	13,000	143,200	12.75	12.90	11.75

Year	Dairy ration cost		Milk cow cost		Grain and other concentrates fed to milk cows			Dairy pasture feed conditions, as percent of normal	Alfalfa hay prices	
	Value per 100 pounds	Milk/feed price relationship 3/	Price received per head	Milk required to buy a cow	Total fed	Per cow	Per cwt of milk produced		Received by farmers per ton	Utility cow prices per cwt
	Dollars	Pounds	Dollars	Cwt	Thousand tons	Pounds	Pounds	Percent	Dollars	
1965	3.03	1.18	212	50	22,827	2,953	36.7	80	25.00	14.44
1970	3.28	1.53	332	58	24,870	3,979	42.4	81	24.70	21.32
1975	6.25	1.31	412	47	24,274	4,357	42.1	79	54.38	21.09
1976	6.30	1.37	477	49	25,083	4,545	41.7	70	60.81	25.31
1977	6.20	1.39	504	52	25,518	4,709	42.1	72	60.57	25.32
1978	6.08	1.53	675	64	26,018	4,803	42.8	76	52.25	36.79
1979	6.68	1.55	1,040	86	27,207	5,070	44.1	82	60.37	50.10
1980	7.42	1.48	1,190	91	28,433	5,260	44.2	70	72.00	45.73
1981	8.02	1.44	1,200	87	28,513	5,220	42.9	79	70.90	41.93
1982	7.45	1.54	1,100	81	29,661	5,380	43.7	83	73.73	39.96
1983	7.88	1.45	1,000	74	30,162	5,438	43.2	77	78.70	39.35
1984 1/	8.16	1.42	891	66	28,464	5,253	42.0	74	80.15	39.81
1985 2/	7.30	1.52	850	67	30,185	5,430	42.2	78	74.50	38.50

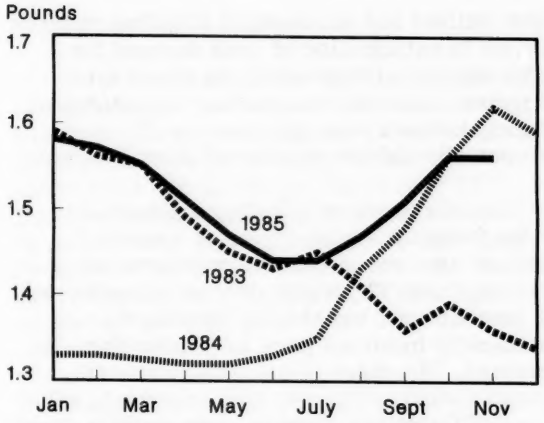
1/ Preliminary. 2/ Preliminary or estimated. 3/ Pounds of 16-percent protein ration equal in value to 1 pound of milk.

Table 4.—Corn, soybean meal, and 16-percent protein dairy ration prices, by months, 1982-85

Month	Corn, No. 2, St. Louis				Soybean meal, Decatur				16-percent dairy feed			
	1982	1983	1984	1985	1982	1983	1984	1985	1982	1983	1984	1985
	- - - $/bu. - - -				- - - $/ton - - -				- - - $/ton - - -			
January	2.65	2.52	3.41	2.86	191.0	179.3	201.9	135.2	181	175	205	177
February	2.61	2.79	3.31	2.84	191.0	177.1	184.4	125.3	180	177	201	174
March	2.66	2.99	3.55	2.86	183.6	177.3	196.4	125.9	179	175	199	172
April	2.78	3.24	3.61	2.88	190.2	186.8	190.0	117.3	179	182	199	171
May	2.78	3.24	3.58	2.81	192.4	185.8	187.4	111.5	181	184	197	170
June	2.75	3.27	3.57	2.79	183.6	175.5	174.4	110.3	179	184	195	168
July	2.68	3.39	3.43	2.72	181.9	189.3	157.6	114.0	180	182	192	168
August	2.42	3.68	3.33	2.47	169.0	232.8	151.6	121.4	177	189	188	165
September	2.32	3.60	3.09	2.38	160.8	233.6	144.9	130.6	173	198	184	163
October	2.12	3.50	2.84	2.20	157.0	228.6	141.6	138.3	171	199	179	162
November	2.43	3.53	2.77		173.4	224.7	135.2		172	205	177	163
December	2.49	3.45	2.75		178.5	218.0	136.7		174	205	176	
Average 1/	2.56	3.27	3.27		179.4	200.7	166.8		188	177	191	

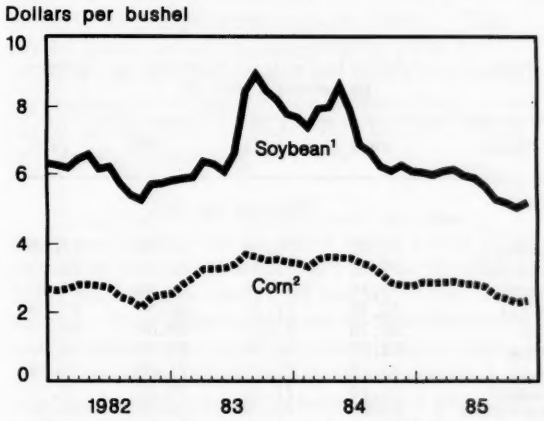
1/ Simple average of monthly prices.

Milk/16-Percent Feed Price Ratio*



* Pounds of 16 percent dairy feed equal to a pound of milk.

Corn and Soybean Prices



1/ Illinois processor, yellow #1. 2/ St. Louis, yellow #2.

Table 5.--Utility cow prices, Omaha, by months, 1982-85

Month	1982	1983	1984	1985
	Dollars per cwt			
January	36.64	36.94	33.26	39.00
February	38.11	40.92	39.69	42.79
March	39.41	42.36	44.01	43.16
April	41.26	43.04	42.88	42.30
May	43.40	42.98	42.17	41.97
June	42.73	42.26	42.16	39.38
July	42.52	41.14	41.48	36.10
August	42.62	39.63	40.86	35.90
September	41.52	37.75	39.20	36.00
October	39.28	37.42	38.57	34.42
November	36.58	34.14	36.86	
December	35.41	33.58	36.56	
Average	39.96	39.35	39.81	

Federally Inspected Dairy Cow Slaughter Lower

Federally inspected (FI) cow slaughter through November 16, 1985, totaled 6.1 million head, a decline of 15.5 percent from the same period in 1984. Dairy cow slaughter was 2.4 million head, down by 15.6 percent, while beef cow slaughter was 3.7 million, down 15.5 percent. The total FI dairy cow kill for 1985 is expected to be about 400,000 less than 1984 and 100,000 fewer than 1983.

Based upon the FI dairy cow slaughter and reported changes in milk cow numbers, the number of heifers entering the milking herd slipped below a year earlier during late summer 1985 following sizable increases

Table 6.--Milk/16-percent protein dairy feed price ratio, by months, 1982-85 1/

Month	1982	1983	1984	1985
		Pounds		
Jan.	1.55	1.59	1.33	1.58
Feb.	1.53	1.56	1.33	1.57
Mar.	1.53	1.55	1.34	1.55
Apr.	1.51	1.49	1.32	1.51
May	1.47	1.45	1.32	1.47
June	1.47	1.43	1.33	1.44
July	1.47	1.45	1.35	1.44
Aug.	1.50	1.41	1.43	1.47
Sept.	1.57	1.36	1.48	1.51
Oct.	1.61	1.39	1.56	1.56
Nov.	1.62	1.36	1.62	1.56
Dec.	1.60	1.34	1.59	
Avg.	1.54	1.45	1.42	

1/ Pounds of 16-percent protein ration equal in value to 1 pound of milk.

Table 7.--Alfalfa hay prices received by farmers, by months, 1982-85

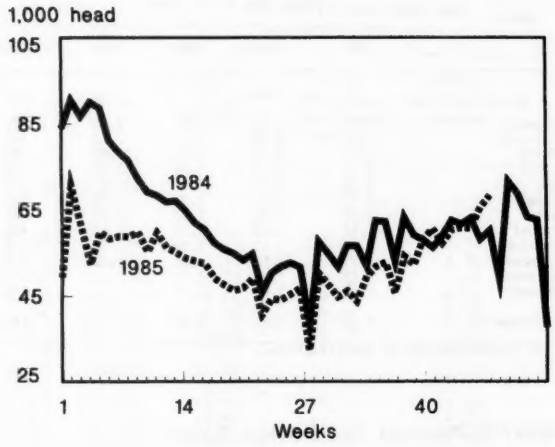
Month	1982	1983	1984	1985
		Dollars per ton		
January	71.40	75.10	82.00	77.50
February	73.50	77.40	85.10	79.50
March	73.10	74.00	84.40	76.00
April	76.70	77.70	84.30	77.40
May	82.30	83.80	89.60	82.70
June	74.00	78.30	83.00	76.80
July	70.10	77.40	76.00	73.30
August	68.20	77.40	74.00	70.80
September	69.80	79.10	74.10	70.20
October	70.40	82.40	74.70	69.50
November	71.80	80.10	75.10	69.40
December	71.50	81.70	79.50	
Average 1/	72.73	78.70	80.15	

1/ Weighted average.

earlier in the year. Entering heifers totaled about 15 percent more than a year earlier during March-May as the diversion program ended. A small gain of 4 percent was posted during June-July, but entries declined 3 percent in August-September.

Evaluation of this entry data is difficult because it has only been available since January 1984 when dairy cow slaughter information was first published. However, the size of the March-May increase relative to January 1 and July 1 heifer inventories, implies that some producers delayed breeding

Federally Inspected Dairy Cow Slaughter



older heifers and accelerated breeding younger heifers in anticipation of peak demand for replacements at the end of the diversion program. This fall, entries may be running slightly below a year ago because of temporarily tighter supplies of older heifers.

Sizable numbers of milk producers are under financial stress. 1/ As of January 1, 1985, 21 percent of dairy farms were highly leveraged (40-70 percent debt/asset ratio) and 11 percent were very highly leveraged or technically insolvent (a ratio greater than 70 percent). The share of dairy farmers with financial difficulties was high relative to other types of farms and growing more rapidly. In addition, about half of dairy farms in 1984 did not generate enough cash from all sources to meet debt repayment and modest family living expenses.

Financial pressures are not likely to be translated into supply response very quickly. One major factor is the lack of attractive alternatives. Most agricultural commodities have problems of their own. While the nonfarm economy has been generating new jobs fairly robustly, they are not the Northern manufacturing jobs that have typically absorbed many exiting dairy farmers.

1/ Data are from Financial Characteristics of U.S. Farms, January 1985. AIB No. 495, USDA, Economic Research Service, July 1985.

The other major factor in supply response is that the situation has not steadily deteriorated. The first major pinch came in late 1983 because the effective milk price was lowered and feed prices rose sharply. However, the pressure abated when feed prices fell and the milk price increased during the second half of 1984. The decline in effective returns over concentrate costs (from the 1982 record) during autumn 1984–spring 1985 was only half as severe as a year earlier. Returns over concentrate costs have been similar to late 1983–early 1984 only since the July 1, 1985, reduction in the support price. The financial condition of dairy farms in the major Midwestern and Northeastern dairy areas have also been eased by good yields and large local supplies of corn and hay in both 1984 and 1985.

Production Will Be Larger

With low feed prices, the number of milk cows on farms has increased since the end of the diversion program. In fact, the number of dairy cows in September and October was above 1983 and the largest since May 1975. However, additional gains in the cow herd are expected to be limited because of tight cash flow, lower milk prices, and some tightness in the heifer supply. For 1985, the average number of cows is likely to be 1.6 percent above last year.

Milk per cow this year is anticipated to total 13,000 pounds, 4 percent above 1984 and 3.3 percent above 1983. Milk per cow was above 1983 in January and expanded sharply with the end of the diversion program.

For all of calendar 1985, milk production will be a record 143.2 billion pounds, 5.8 percent greater than in 1984. Calendar 1986 production is projected to be 2 to 5 percent larger. Better management, new technologies, and genetic advancement will add upward pressure on yields, but cow numbers probably will average about the same as in 1985.

PRICES AND INCOME

Retail Prices Easing

Retail dairy prices continue to ease downward from the February 1985 peak. The BLS index stood at 257.1 (1967=100) in October, down 0.3 percent from February and up only 0.4 percent from a year earlier. The October increase from a year earlier was the smallest thus far in 1985 and considerably less than the 3.2 percent rise for all items and the 1.8 percent increase for all foods.

Retail prices of dairy products have not fully reflected declines at farm and wholesale levels. Retail margins have widened significantly in 1985, after several years of modest increases. Part of the widening can be attributed to typical sluggishness in retail prices. Brisk sales of dairy products may have further slowed price declines.

Retail dairy prices probably will be stable to declining in coming months if support prices are not changed. Wholesale to retail margins may be whittled down and wholesale prices are unlikely to budge from support levels. This would leave retail prices in early 1986 just slightly below a year earlier. For all of 1986, an unchanged support price would likely leave retail prices even to down slightly, following this year's 2–percent increase.

In October, all of the year–to–year increase in the overall dairy index came from prices of manufactured dairy products; retail fluid milk prices were just barely below a year earlier. The index of prices of manufactured dairy products was 1.2 percent higher than October 1984. While butter prices were 2 percent lower, cheese prices were 1 percent higher, ice cream prices were up 2 percent, and other manufactured products rose 3 percent. Unlike prices of fluid milk, retail prices of most manufactured products have not declined from the levels of early 1985.

Wholesale Price Movements Small

Heavy supplies of dairy products left little leeway for wholesale price movement this summer and fall. Butter prices were the most active. They rose 5–6 cents in July before falling back a like amount in August. A similar rise was posted in September. October declines dropped the price of Grade A butter back close to CCC's support purchase price, but the price of AA butter remained somewhat above support. In early December, Grade AA butter on the Chicago exchange was $1.4325 per pound, 3.5 cents above the support price and equal to a year ago.

Table 8.--Retail price indexes, for all urban consumers, 1982-85

Year and month	Consumer price index	All food	All dairy products	Fluid milk and cream	Whole milk	Other fluid items	Manufactured dairy products	Butter	Cheese	Frozen desserts	Other manufactured
	- - 1967=100 - -			12/77=100	1967=100	12/77=100		1967=100	- - - 12/77=100 - - -		
1982											
Average	289.1	285.7	247.0	135.4	221.4	135.6	145.6	251.1	143.9	150.4	140.2
1983											
Average	298.4	291.7	249.9	136.3	222.9	136.7	148.3	254.0	146.3	153.2	144.4
1984											
January	305.2	299.4	250.8	136.4	222.7	137.3	149.3	254.7	147.0	154.8	146.1
February	306.6	302.1	250.9	136.6	223.3	137.0	149.3	253.4	146.8	155.6	146.2
March	307.3	302.2	250.8	136.5	222.9	137.3	149.2	254.4	146.3	155.3	146.9
April	308.8	302.3	251.5	136.8	223.7	137.3	149.6	252.4	146.6	156.4	148.2
May	309.7	301.4	251.0	136.5	223.0	137.3	149.4	254.2	146.2	156.6	146.8
June	310.7	302.0	251.7	136.6	223.2	137.3	150.2	254.1	147.4	156.6	148.5
July	311.7	303.2	252.2	136.7	223.3	137.5	150.8	261.2	147.9	155.8	148.3
August	313.0	304.8	252.7	136.7	223.2	137.7	151.5	264.4	148.2	157.4	148.1
September	314.5	304.2	254.9	137.7	224.7	138.7	153.1	266.0	149.1	160.9	149.9
October	315.3	304.4	256.1	138.7	226.8	139.0	153.3	268.8	149.5	160.0	150.0
November	315.3	304.1	257.2	139.8	228.7	140.0	153.3	268.7	150.1	158.1	150.9
December	315.5	305.1	258.4	140.4	229.6	140.7	154.1	269.4	150.1	160.1	152.5
Average	311.1	302.9	253.2	137.4	224.6	138.1	151.1	260.1	147.9	157.3	148.5
1985											
January	316.1	307.3	258.8	140.4	229.6	141.0	154.5	266.4	150.3	162.3	153.0
February	317.4	309.5	259.2	140.7	229.8	141.5	154.8	264.9	150.8	162.6	153.0
March	318.8	309.7	258.9	140.6	229.7	141.2	154.4	263.9	150.5	162.1	152.8
April	320.1	309.6	258.3	140.2	229.1	140.8	154.2	259.6	149.9	162.4	154.7
May	321.3	308.9	258.4	139.8	228.7	140.1	154.9	262.6	150.7	162.9	155.0
June	322.3	309.3	257.8	139.8	228.7	139.9	154.2	262.8	150.0	161.9	154.2
July	322.8	309.5	257.8	139.1	227.4	139.5	155.1	262.6	151.3	162.5	155.2
August	323.5	309.7	257.4	139.2	227.8	139.2	154.5	262.2	150.9	161.6	153.6
September	324.5	309.9	258.0	139.0	227.5	139.2	155.5	263.3	151.6	162.9	155.7
October	325.5	309.8	257.1	138.5	226.3	139.0	155.1	262.8	150.9	163.1	154.9

Early December Cheddar cheese prices on the National Cheese Exchange were the same as early July for 40-pound blocks and up 1.25 cents per pound for barrels. These prices were roughly 13 cents below a year earlier. The minor seasonal strength in butter and cheese prices probably will dissipate shortly as production increases seasonally.

Nonfat dry milk prices have slipped since July. In early December, powder prices (high heat, Central States production area) were 80.5 cents per pound, down a penny from early July and 11 cents from a year earlier. Dry whey prices also have fallen. Prices in the Central States area were only 12 cents per pound, down from 19.75 cents in early July and from 23 cents a year earlier. Solids-not-fat products have been under greater price pressure because of their larger proportional surplus.

The index of wholesale dairy prices published by the Bureau of Labor Statistics (BLS) stood at 245.5 (1967=100) in October, down 4 percent from a year earlier. The fluid milk index was down almost 2 percent but ice cream was about the same as a year ago.

Under the expected 1986 supply-demand conditions, wholesale prices will be dominated by the price support program. Inclusion of a paid diversion program or herd buyout provisions in the new legislation would increase the odds of significant summer or fall price movement. Otherwise, price movements likely will be limited to minor adjustments around support purchase prices.

Seasonal Milk Price Rise Modest

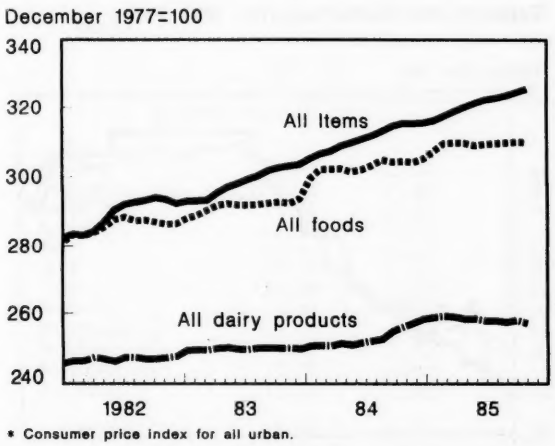
The Minnesota-Wisconsin (M-W) price was $11.19 per cwt in November, 12 cents below the support price. The November M-W price was $1.53 below a year earlier, when prices were boosted by a tighter supply-demand situation. Based on the November M-W price, minimum Class I prices under the Federal orders will average about $13.35 in January. Federal order minimum Class I prices will average about $13.90 in 1985, down 50 cents from 1984 and the lowest since 1980.

Table 9.—Retail dairy product prices, 1982-85

Year and month	Milk, fresh, whole 1/	Milk, fresh, skim	Milk, fresh, lowfat	Butter, salted, Grade AA, sticks	Natural Cheddar cheese	American processed cheese	Ice cream, prepackaged, bulk, regular	Yogurt, natural fruit flavored
	-- $ per 1/2 gallon --			--- $ per pound ---			$ per 1/2 gallon	$ per 1/2 pint
1982								
Average	1.125	.979	1.062	2.046	N.A.	N.A.	2.103	.503
1983								
Average	1.128	.986	1.074	2.066	N.A.	N.A.	2.158	.514
1984								
January	1.124	.999	1.067	2.055	3.048	2.485	2.189	.522
February	1.122	.995	1.072	2.035	3.036	2.495	2.191	.517
March	1.121	1.000	1.068	2.057	3.044	2.493	2.171	.532
April	1.126	1.013	1.073	2.041	3.030	2.501	2.210	.542
May	1.124	1.005	1.074	2.058	3.026	2.472	2.203	.523
June	1.121	.999	1.067	2.054	3.058	2.502	2.193	.534
July	1.125	1.003	1.059	2.112	3.095	2.478	2.212	.529
August	1.118	1.018	1.054	2.136	3.068	2.503	2.232	.513
September	1.126	1.028	1.058	2.171	3.067	2.521	2.301	.524
October	1.132	1.021	1.058	2.180	3.088	2.536	2.259	.527
November	1.142	1.023	1.069	2.189	3.103	2.548	2.223	.530
December	1.142	1.041	1.082	2.201	3.120	2.534	2.231	.565
Average	1.127	1.012	1.067	2.107	3.065	2.506	2.218	.530
1985								
January	1.143	1.047	1.086	2.179	3.101	2.547	2.284	.563
February	1.144	1.047	1.082	2.160	3.093	2.511	2.291	.562
March	1.139	1.056	1.099	2.158	3.055	2.544	2.290	.569
April	1.141	1.055	1.090	2.136	3.060	2.525	2.291	.573
May	1.138	1.043	1.089	2.130	3.100	2.539	2.312	.576
June	1.138	1.043	1.084	2.138	3.078	2.503	2.276	.578
July	1.134	1.056	1.083	2.125	3.108	2.531	2.293	.586
August	1.133	1.038	1.087	2.121	3.126	2.509	2.273	.560
September	1.130	1.048	1.074	2.117	3.113	2.531	2.345	.588
October	1.129	1.039	1.067	2.002	3.109	2.528	2.347	.577

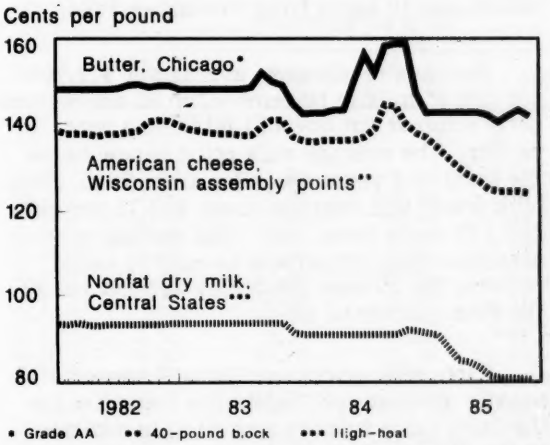
1/ Vitamin fortified. N.A. = Not available.

Retail Price Indexes*



* Consumer price index for all urban.

Wholesale Dairy Product Prices



* Grade AA ** 40-pound block *** High-heat

Table 10.--Whole milk: Prices and farm-to-retail spread, 1982-85

Year	Retail price	Farm value	Farm-retail spread	Farmers' share
	- Cents per 1/2 gallon -			Percent
1982				
Average	112.5	59.2	53.3	53
1983				
Average	112.8	59.5	53.4	53
1984				
January	112.4	59.6	52.8	53
Febuary	112.2	57.6	54.6	51
March	112.1	57.4	54.7	51
April	112.6	57.4	55.2	51
May	112.4	57.5	54.9	51
June	112.1	57.4	54.7	51
July	112.5	57.3	55.2	51
August	111.8	57.5	54.3	51
September	112.6	57.8	54.8	51
October	113.2	58.4	54.8	52
November	114.2	59.9	54.3	52
December	114.2	60.1	54.1	53
Average	112.7	58.2	54.5	52
1985				
January	114.3	60.4	53.9	53
Febuary	114.4	59.6	54.8	52
March	113.9	58.9	55.0	52
April	114.1	58.2	55.9	51
May	113.8	57.1	56.7	50
June	113.8	55.7	58.1	49
July	113.4	55.0	58.4	48
August	113.3	53.8	59.5	48
September	113.0	53.4	59.6	47
October	112.9	53.3	59.6	47

Prices negotiated by cooperative associations have also risen slightly in the last few months. In November, the estimated average over-order payment was almost 90 cents, up around 5 cents from the previous month and 10 cents from November 1984.

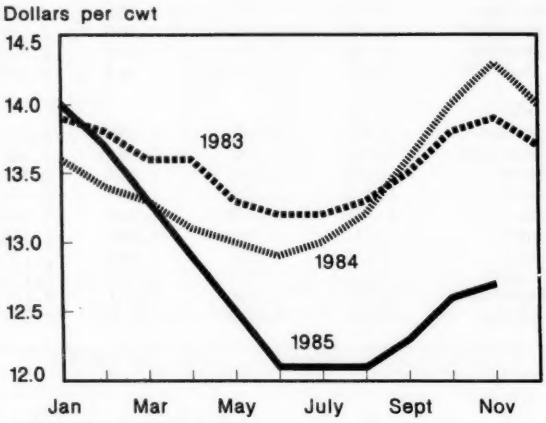
Farmers received an average of $12.70 per cwt of milk in November, up 60 cents from early summer but down $1.60 from a year earlier. The average milk price is now below the level of 6 years ago. For all of 1985, farm milk prices will average about $12.75 per cwt, down 70 cents from 1984. The decline in effective farm prices will be only 32 cents because the 50-cent deduction applied just to the first quarter of 1985.

Farm milk prices in 1986 will depend heavily on what new legislation mandates for the dairy price support program. In addition to the direct effect of the support price specified by the law, milk prices will be affected by whether or not the legislation contains programs to curb output.

If the support price remains at $11.60 with no production-reducing programs, prices probably will average 30-60 cents below 1985's level. Sharply higher production will strain manufacturing capacity during the flush season and holidays, putting downward pressure on the M-W price. Combined with below-1985 support prices for the first half of 1986, this pressure could generate the expected decline in the annual average.

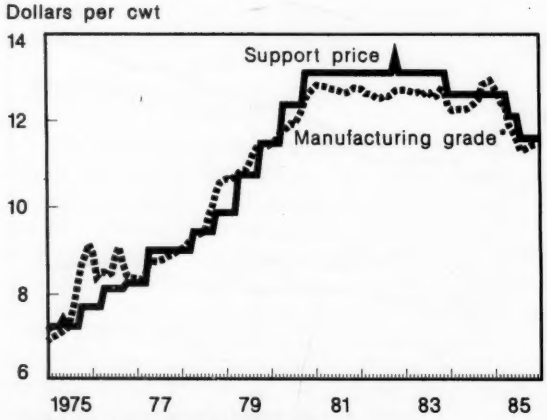
An effective program to cut milk production would ease capacity pressures and generate more active bidding for raw milk.

All Milk Prices*



* Delivered to plants and dealers.

Support and Manufacturing Milk Price



* Adjusted to a fat test of 3.67 percent

Table 11.--Wholesale dairy product prices and indexes, 1982-85

Year and month	Butter, Grade A, Chicago	Cheese, 40-lb blocks Wisconsin assembly points	Nonfat dry milk, Central States, high heat	Wholesale price index (all dairy products)	Fresh whole milk	Butter	Cheese	Ice cream
	Cents per pound			1967=100				
1982								
Average	147.69	138.27	93.15	248.9	197.9	226.9	313.3	235.9
1983								
Average	147.30	138.28	93.19	250.6	199.7	266.5	314.1	239.8
1984								
January	140.44	135.79	90.75	248.4	199.9	218.8	307.5	240.4
February	141.25	135.47	90.75	248.4	199.5	219.2	307.6	242.5
March	142.11	135.88	90.75	248.8	199.6	220.2	308.3	243.6
April	142.94	135.88	90.75	248.9	199.4	220.2	308.4	245.6
May	142.92	135.88	90.75	248.9	199.3	221.3	308.8	244.9
June	150.04	136.02	90.75	249.6	199.6	227.3	308.7	244.2
July	155.55	136.71	90.75	251.4	199.4	242.1	310.1	248.8
August	150.61	138.59	90.75	251.2	199.7	227.2	313.2	246.0
September	158.12	144.29	90.75	255.0	201.4	241.3	318.3	251.3
October	158.12	143.78	90.75	256.4	203.3	243.0	318.7	249.7
November	158.12	139.72	91.75	257.4	206.0	243.3	315.2	248.7
December	145.55	137.50	91.50	255.9	202.2	221.7	314.8	249.0
Average	148.81	137.96	90.90	251.7	200.8	228.8	311.6	246.2
1985								
January	141.46	136.48	90.99	255.3	206.0	216.9	314.0	249.2
February	141.25	134.26	90.57	254.0	205.3	216.6	311.6	249.8
March	141.25	132.05	89.74	253.3	205.0	216.9	309.3	251.0
April	141.89	129.93	84.87	251.5	204.6	217.5	304.2	250.9
May	141.88	128.00	84.50	250.0	203.8	217.4	301.5	249.7
June	141.88	126.75	83.28	249.4	202.9	217.6	299.6	249.3
July	141.50	124.73	81.40	248.0	202.3	215.2	295.7	248.4
August	140.74	124.25	80.92	247.5	201.9	218.4	293.5	250.2
September	141.19	124.26	80.81	246.2	201.4	215.3	293.5	249.2
October	141.64	124.31	80.62	245.5	200.1	217.6	294.0	249.3

Table 12.--Milk prices received by farmers, by months, 1982-85

Month	All sold to plants				Manufacturing grade			
	1982	1983	1984	1985	1982	1983	1984	1985
	Dollars per cwt							
January	14.00	13.90	13.60	14.00	13.00	12.90	12.50	12.90
February	13.80	13.80	13.40	13.70	12.80	12.80	12.40	12.60
March	13.70	13.60	13.30	13.30	12.70	12.70	12.40	12.30
April	13.50	13.60	13.10	12.90	12.60	12.70	12.30	11.90
May	13.20	13.30	13.00	12.50	12.40	12.50	12.20	11.60
June	13.20	13.20	12.90	12.10	12.30	12.40	12.10	11.30
July	13.20	13.20	13.00	12.10	12.30	12.30	12.10	11.00
August	13.30	13.30	13.20	12.10	12.30	12.20	12.20	11.10
September	13.60	13.50	13.60	12.30	12.60	12.50	12.80	11.40
October	13.80	13.80	14.00	12.60	12.90	12.90	13.10	11.70
November	13.90	13.90	14.30	12.70	13.00	13.00	13.30	11.80
December	13.90	13.70	14.00		13.00	12.70	13.10	
Average 1/	13.59	13.57	13.45		12.66	12.63	12.54	

1/ Simple average of reported monthly prices.

Further price increases could result from the effects of tighter supplies on wholesale product prices. However, market participants learned from their 1984 experience. Therefore, commercial stocks at the end of the flush season probably would be higher and markets would operate with less confusion. The rise in milk prices likely would not be as large as in 1984 if the reduction in output is similar.

Cash Receipts Lower in 1984, but Up in 1985

Cash receipts during 1984 were $17.9 billion, down 4.4 percent from 1983. Farm marketings of milk and cream to plants and dealers and direct sales to consumers declined 3.6 percent in 1984, while the average return per cwt marketed was down about 0.9 percent. In 1985, with marketings up 6.3 percent and prices down 5.2 percent, cash receipts are expected to total $18.1 billion, up less than 1 percent.

However, 1983, 1984, and 1985 cash receipts were impacted directly by provisions of the price-support program. After making adjustments to cash receipts for diversion payments and net deductions, the total effective cash receipts were about $18.1 billion in 1983 and about $17.8 billion in 1984 and will likely be $18.3 billion in 1985, compared with $18.2 billion in 1982. If the 1986 marketings and price projections are right, cash receipts in 1986 would total $18.2 billion.

Table 13.--USDA purchase prices under dairy price-support programs, 1977-85 1/

Effective date of change	Butter at Chicago, Grade A or higher	Nonfat dry milk, extra grade, spray	Natural cheddar cheese, Grade A or higher
	Cents per pound		
10/01/77	100.71	68.00	98.00
4/01/78	106.71	71.00	103.25
10/01/78	111.30	73.75	106.00
4/01/79	121.80	79.00	116.00
10/01/79	131.33	84.00	124.00
4/01/80	140.58	89.50	132.50
10/01/80	149.00	94.00	139.50
10/01/81	153.00	96.50	143.25
10/21/81	149.00	94.00	139.50
10/01/82	149.00	94.00	139.50
10/01/83	149.00	94.00	139.50
12/01/83	143.25	91.00	134.75
10/01/84	143.25	91.00	134.75
4/01/85	143.25	84.75	128.75
7/01/85	139.75	80.75	124.00

1/ Prices for bulk containers--butter, 64- and 68-pound packages; nonfat dry milk, nonfortified in 50-pounds bags; and cheese, 40- or 60-pound blocks. See DS-387, December 1981, table 3 for earlier data.

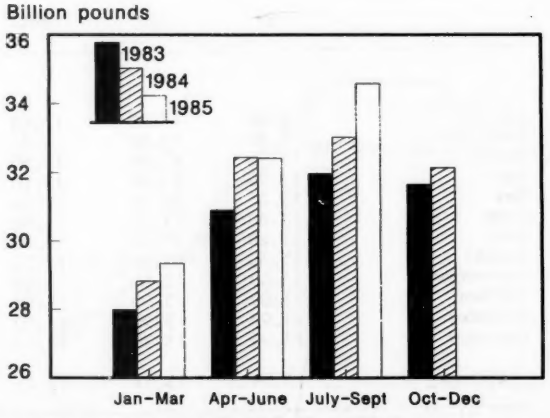
UTILIZATION

Dairy Sales Strong

Sales of dairy products surged during July-October. Commercial use of milk and dairy products was 4.8 percent above a year earlier. Increases were felt on a broad front; sales of fluid milk, butter, cheese, and frozen products were all up significantly.

Fluid milk sales were robust during July-October, posting consistent gains from a year ago of around 1.5 percent. If such strength continues through yearend, fluid sales for 1985 will show the largest 2-year increase since the mid-sixties. Commercial use of butter was up about 9 percent during July-October. Commercial disappearance of cheese was also strong, with a 5-percent increase for American types and a 6-percent boost for other varieties. Among other products, ice cream was up 2 percent, creamed cottage cheese was about unchanged, and both ice milk and lowfat cottage cheese had large increases. Nonfat dry milk was the only major product down from a year earlier; greater availability of fresh and condensed skim reduced powder use.

Commercial Use of All Milk Products*



* Milkfat basis. Jan-Mar 1984 adjusted for leap year.

Table 14.--Manufacturing milk: Comparisons of announced support prices and U.S. average market prices paid to producers, marketing years, 1977-85 1/

Marketing year 2/	Support level			Average market level		
	Date effective	Percentage of parity equivalent 3/	Price per cwt	Price per cwt	As a percentage of parity equivalent	
					In month prior to marketing year	Average during marketing year
		Percent	Dollars		Percent	
1977	10/01/77	82	9.00			
	4/1/78	86	9.43	9.30	85	79
1978	10/01/78	80	9.87			
	4/01/79	87	10.76	10.86	88	80
1979	10/01/79	80	11.49			
	4/1/80	87	12.36	11.75	82	76
1980	10/01/80	80	13.10	12.71	78	73
1981	10/01/81	75	13.49			
	10/21/81	72.9	13.10	12.66	70	68
1982	10/01/82	69.1	13.10	12.66	67	64
1983	10/01/83	64.9	13.10			
	12/01/83	62.4	12.60	12.47	61	59
1984	10/01/84	59.1	12.60			
1985	4/01/85	56.8	12.10			
	7/01/85	54.4	11.60	12.13	57	57

1/ See DS-387, December 1981, table 2 for earlier data. 2/ Start of marketing year October 1. 3/ Except as noted, this is the percentage published in month before the marketing year. In some cases, the announced percentages, based on forward estimates of parity, were slightly different. Parity equivalent is based on prices for all manufacturing grade milk.

Table 15.--Computations of parity equivalents for U.S. manufacturing grade milk, per cwt, marketing years, 1977-85 1/

Marketing year 2/	Base period 3/			Adjusted base price 5/	Parity 4/		
	All milk wholesale	Manufacturing grade milk	Ratio		Index (1910-14=100)	Prices	
						All milk wholesale	Equivalent of manufacturing milk grade
	Dollars		Percent	Dollars		Dollars	
1977	6.75	5.72	84.7	1.88	685	12.90	10.93
1978	7.22	6.18	85.6	1.90	756	14.40	12.33
1979	7.74	6.73	87.0	1.91	862	16.50	14.36
1980	8.40	7.39	88.0	1.91	972	18.60	16.37
1981	9.13	8.13	89.0	1.94	1,042	20.20	17.98
1982	9.92	8.91	89.8	1.96	1,077	21.10	18.95
1983	10.67	9.67	90.6	2.01	1,108	22.30	20.20
1984	11.31	10.30	91.1	2.06	1,134	23.40	21.32
1985	11.82	10.83	91.6	2.08	1,114	23.20	21.25

1/ See DS-387, December 1981, table 4 for earlier data. 2/ Start of marketing year October 1. 3/ For the 10 calendar years immediately preceding. 4/ Immediately preceding start of marketing year. 5/ A 120-month average of farm prices for all wholesale milk divided by a 120-month average of the index of prices received by farmers (both adjusted for supplemental payments) ending with December of previous year. Actual price received during 1910-14 was $1.61.

Last summer's boost in dairy sales was exceptional only in terms of the size of the increase. Commercial use has been on a fairly consistent and strong uptrend since late 1983. Steadily declining real dairy prices, steadily improving economic conditions, and recently expanded promotion efforts are the roots of the uptrend. These factors probably will continue to favor dairy product sales in 1986.

Typically, sizable gains in total commercial use have been associated with large increases in the sales of butter, American cheese, or both. Thus far in 1985, sales of these two products have lagged most other dairy products--only matching last year's strong levels. An increase in aggregate sales, without a push from American cheese or butter use, reflects the breadth of dairy sales strength. Such widespread increases may be the effect of declining real retail prices. With the fairly constant real prices of the late seventies, changes in total dairy sales tended to reflect shifts in demand for important individual dairy products.

Daily Average Sales of Fluid Milks

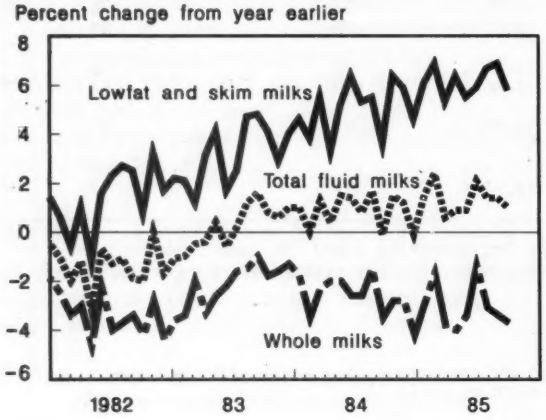


Table 16.--Dairy sales, January-October, 1984-85, with comparisons

Item	1984	1985	Change
	Million pounds		Percent
Total milk 1/	105,605.0	107,853.0	+2.2
Manufactured products:			
American cheese	1,873.3	1,875.1	+.1
Other cheese	1,885.1	1,989.7	+5.5
Cottage cheese 2/	822.0	824.8	+.3
Butter	740.2	743.0	+.4
Ice cream	3,679.7	3,667.3	-.3
Ice milk	1,451.9	453.5	-8.0
Canned milk	492.7	360.6	-14.2
Nonfat dry milk	420.4		
Fluid products 3/			
Whole milk	13,216	12,318	-3.1
Skim and lowfat milk	12,089	12,819	+6.2

1/ Milk-equivalent, fat-solids basis. 2/ Creamed and low-fat. 3/ January-October based on Federal order data. Percent change adjusted for calendar composition and seasonality.

Farmers Approve Promotion Program

In a nationwide referendum held during August, dairy farmers across the country voted overwhelmingly in favor of continuing the Dairy Promotion and Research Order. The continuation of the order was approved by 107,926 dairy producers, or 89.7 percent of the 120,330 voting. The Dairy and Tobacco Adjustment Act of 1983 required that a referendum be held to determine whether the order should be continued after September 30, 1985.

The Dairy Promotion and Research Order was established to implement a national program for dairy product promotion, research, and nutrition education. The program is financed by a 15-cent per cwt assessment on all milk produced in the 48 contiguous States and marketed commercially by dairy farmers. The program is administered by the Dairy Promotion and Research Board comprised of 36 dairy producers appointed by the Secretary of Agriculture to represent the industry.

Commercial Stocks Low

Commercial stocks of dairy products on November 1 totaled just under 5 billion pounds milk equivalent, about the same as the relatively low level of a year earlier. Commercial interests had little incentive to carry any more than working stocks because of ample expected supplies and almost no chance of significant wholesale price increases.

Commercial use for all of 1985 is now expected to be more than 2 percent higher than 1984 and almost 6 percent above 1983. The 1983-85 growth would be the strongest in 3 decades. The 1986 growth in dairy sales is expected to be 1-3 percent.

Table 17.--Commercial disappearance: Total milk, annual and quarters, 1983-85 1/

Item	1983				1984					1985 2/		
	Quarters				Quarters					Quarters		
	II	III	IV	Total	I	II	III	IV	Total	I	II	III
	Billion pounds											
Production	36.8	34.9	33.7	139.7	34.0	35.6	33.5	32.4	135.4	33.6	37.2	36.7
Farm use	.6	.6	.6	2.4	.8	.8	.8	.8	3.1	.8	.6	.6
Marketings	36.2	34.3	33.1	137.3	33.2	34.8	32.7	31.6	132.4	32.8	36.6	36.1
Beginning commercial stocks	5.2	5.3	5.2	4.6	5.2	5.3	5.6	5.2	5.2	4.9	5.0	5.5
Imports	.5	.6	.9	2.6	.6	.6	.7	.8	2.7	.6	.6	.6
Total supply	42.0	40.2	39.2	144.5	39.0	40.8	39.0	37.6	140.3	38.4	42.2	42.2
Ending commercial stocks	5.3	5.2	5.2	5.2	5.3	5.6	5.2	4.9	4.9	5.0	5.5	5.0
Net removals	5.8	3.1	2.3	16.8	4.5	2.8	.8	.6	8.6	4.1	4.2	2.6
Commercial disappearance (actual)	30.9	32.0	31.6	122.5	29.2	32.4	33.0	32.1	126.7	29.3	32.4	34.6
Percent change 3/	+.3	+.7	+2.0	+0.3	4/+2.9	+5.0	+3.3	+1.6	4/+3.2	4/+1.8	-0.0	+4.8

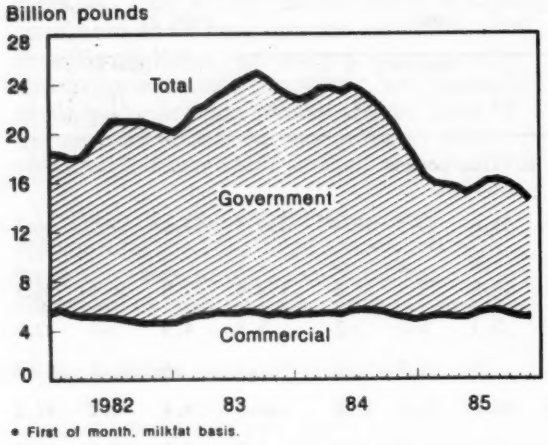
1/ Milkfat basis. Totals may not add because of rounding. 2/ Preliminary. 3/ From year earlier, using unrounded data. 4/ On a daily average basis.

Table 18.--Commercial disappearance: Selected manufactured dairy products, 1982-85 1/

Year and quarter	Butter 2/	Cheese		Nonfat dry milk	Canned milk	Frozen products 4/
		American 3/	Other			
	Million pounds					Million gallons
1982	897.3	2,166.8	2,044.6	447.7	715.3	1,178.2
1983-1st Qtr.	209.5	466.9	494.6	109.6	160.8	264.2
2nd Qtr.	198.6	570.7	508.3	106.4	159.0	340.1
3rd Qtr.	217.0	500.2	521.1	122.4	144.5	368.4
4th Qtr.	256.6	545.4	610.4	121.6	221.4	251.5
Total	881.7	2,083.3	2,134.3	459.9	685.8	1,224.2
1984-1st Qtr.	194.0	545.1	530.9	124.4	144.1	271.3
2nd Qtr.	241.3	572.8	559.8	109.6	136.3	350.6
3rd Qtr.	215.6	564.4	582.9	141.6	143.6	354.5
4th Qtr.	251.5	571.3	637.2	120.1	219.7	253.0
Total	902.3	2,253.6	2,310.9	496.0	643.6	1,229.4
1985-1st. Qtr. 5/	205.7	515.2	558.5	104.7	125.7	260.7
2nd Qtr.	205.0	564.7	585.8	89.8	127.0	354.5
3rd Qtr.	244.5	587.1	613.4	128.9	139.6	369.8

1/ Totals may not add because of rounding. 2/ Imports include butter-equivalent of butteroil. 3/ Imports include Colby cheese; stocks do not include processed cheese. 4/ Excludes Mellorine. 5/ Preliminary.

Dairy Product Stocks*



* First of month, milkfat basis.

Commercial butter stocks were slightly higher than a year ago, while cheese holdings were down a bit. Commercial stocks probably will be held at fairly low levels during the rest of 1985 and 1986.

Government stocks on November 1 were equivalent to 9.5 billion pounds of milk, down a third from a year earlier. Holdings of both butter and cheese were well below last year. CCC stocks have been reduced by heavy domestic donations. By winter, Government stocks again will be growing rapidly. Huge price-support purchases will be the primary cause, although reduced donations of butter to needy persons will also contribute.

Manufacturers' stocks of nonfat dry milk on November 1 were well above a year earlier and probably larger than necessary for current commercial needs. These holdings probably will be worked down in coming months. CCC inventories were down about a fourth from a year ago but remained very large.

Purchases Sharply Larger

Purchases under the dairy price support program are once again near records. CCC net removals were equivalent to 1.4 billion pounds of milk (fat basis) during October-November, up 1.2 billion from a year ago and about the same as 1983. For the first 11 months of 1985, purchases totaled 12.4 billion pounds milk equivalent, up 4.2 billion from 1984 but down 3.5 billion from 1983. Net removals are expected to reach 13.5 billion pounds for the entire calendar year, the third largest on record.

During the 1984/85 marketing year, CCC net removals were 292 million pounds of butter, 551 million pounds of cheese, and 829 million pounds of nonfat dry milk. All three major products were purchased in larger quantities than during the previous marketing year, with butter showing the largest increase and cheese the smallest. The total milk equivalent (fat basis) came to 11.5 billion pounds, up from 10.3 billion pounds during 1983/84.

Table 19.--Dairy product stocks, November 1, 1983-85

Item	1983	1984	1985
	Million pounds		
Commercial:			
Butter	36.7	35.2	39.6
American cheese	365.5	340.5	324.6
Other cheese	103.8	98.6	98.9
Nonfat dry milk	67.9	42.9	70.7
Milkfat	187.4	177.5	176.9
Solids-not-fat	225.7	195.1	218.9
Total, milkfat basis	5,280.2	4,996.4	4,954.3
Government:			
Butter	487.2	339.1	190.8
Amer. cheese 1/	828.7	733.8	559.1
Nonfat dry milk	1,337.2	1,248.7	947.7
Milkfat	659.2	509.4	333.7
Solids-not-fat	1,555.2	1,441.6	1,100.1
Total, milkfat basis 1/	18,251.0	14,255.1	9,467.7

1/ Includes processed American cheese stocks held by CCC.

Table 20.--USDA dairy purchases, 1984-85, with comparisons 1/

Item	January-November		
	1984	1985	Change
	Million pounds		Percent
Butter	191.8	312.7	+63.0
American cheese	429.2	590.0	+37.5
Nonfat dry milk	642.4	865.6	+34.7
Evaporated milk	18.2	25.4	+39.6
Milk-equivalent, fat-solids basis	8,239.8	12,340.6	+49.8

1/ Deliveries minus unrestricted sales.

CCC purchased 8.4 percent of the milkfat in milk marketed during the 1984/85 year. The solids-not-fat content of purchases was a similar 8.3 percent of marketings.

If the support price remains at $11.60 per cwt and there is no diversion or buyout program, increases in milk production during 1986 probably will outstrip gains in commercial use, boosting purchases from this year's level. Removals might be similar to the 1983 record and could range from 13 to 20 billion pounds.

Dairy Support Costs Lower

One method to compute the cost of the dairy price support program is to look at the taxpayer's cost. With this method, you sum the cost of net purchases for a marketing year, reduce the total for any deductions, and then add on diversion payments. Under this method the costs in 1982/83 (October through September) were about $2.5 billion, up 16 percent from a year earlier. In 1983/84, costs dropped sharply to about $1.5 billion but are estimated to be about $2.2 billion in 1984/85, and are likely to again reach $2.5 billion in 1985/86.

Dairy Manufacturing Heavy

Larger milk marketings have boosted the amount of milk used for manufactured products thus far in 1985. However, the increase in manufactured output has trailed the rise in marketings because of larger fluid milk sales. During the first 10 months of 1985, the equivalent of 63.9 billion pounds of milk (fat basis) was used in manufactured products. This was an increase of 5.5 billion pounds from 1984, compared with a rise of 6.0 billion pounds in marketings. Similar comparisons with 1983 show manufacturing use down 0.2 billion pounds and marketings up 2.0 billion pounds.

Butter and American cheese absorb most of the residual supplies of raw milk. Milk used to produce these two products during January-October totaled 1.9 billion pounds less than during the first 10 months of 1983, despite larger milk marketings. The rise from 1984 was a modest 4.6 billion pounds. Because of additional milk use in manufactured and fluid products, part (but not all) of the expected increase in milk production next year could be accommodated

Table 21.--Dairy products removed from the commercial market by USDA programs, marketing years, 1971-84 1/

Marketing year 2/	Net removals 3/						Solids content of removals			
	Butter 4/	Cheddar cheese	Dry whole milk	Evaporated milk	Nonfat dry milk 5/	Milk equivalent	Milk-fat	Solids-not-fat	As a percentage of marketings	
									Milk-fat	Solids-not fat
	Million pounds					Billion pounds	Million pounds		Percent	
1971	262.4	87.0	0.6	102.0	463.5	6.6	250.7	494.1	5.9	5.0
1972	220.2	20.1	1.5	81.2	259.9	5.0	192.4	274.1	4.5	2.8
1973	26.1	4.9	3.4	50.0	41.6	.7	27.7	53.2	.7	.6
1974	66.9	93.5	.9	33.7	393.6	2.4	89.6	414.8	2.2	4.3
1975	26.1	33.3		24.5	274.8	.9	35.6	279.3	.9	2.9
1976	114.9	96.9		16.5	186.4	3.4	126.3	213.3	2.9	2.1
1977 6/	133.9	87.4		9.7	345.5	3.6	139.1	362.4		
1977	134.6	41.6		17.4	338.5	3.2	125.5	342.9	2.9	3.4
1978	46.2	12.1		17.4	202.5	1.1	43.9	202.1	1.0	2.0
1979	233.0	335.6		15.4	592.2	8.2	301.0	678.2	6.6	6.3
1980	356.5	532.1		20.2	786.9	12.7	465.4	928.1	9.9	8.3
1981	381.9	598.6		19.5	948.8	13.8	508.4	1,104.4	10.5	9.7
1982	410.3	820.3		22.4	1,047.2	16.6	603.5	1,268.2	12.1	10.9
1983	239.4	542.0		23.7	769.1	10.3	374.5	913.5	7.5	7.7
1984 7/	292.3	550.8		24.2	828.6	11.5	420.4	974.0	8.4	8.3

1/ For earlier years see DS-387, December 1981, table 10. 2/ Start of marketing year April 1, 1965-77, October 1, 1977 to present. 3/ Delivery basis after domestic unrestricted sales. Includes purchases of butter, cheese, evaporated milk, and nonfat dry milk under Section 709 and Section 4(a). 4/ Includes butter equivalent of anhydrous milk-fat and payment-in-kind (PIK) purchases. 5/ Includes PIK certificates issued; beginning January 1972, also includes Title I exports originating from private stocks. 6/ April-September transition period. 7/ Preliminary.

without more butter and American cheese capacity than existed in 1983.

During July–October 1985, manufactured product output was up sharply from a year ago. Total milk used in manufacturing was up 18 percent from 1984. Most major products shared in the increase. Butter production was 32 percent larger and nonfat dry milk output 44 percent larger. However, the increase in butter production was larger than the increase in nonfat dry milk output in terms of the amount of additional raw milk required. In part, this may reflect the realignment of relative support purchase prices on April 1 and July 1. Another factor was the increased sales of lowfat fluid milk products which may have resulted in additional butter production.

Larger amounts of most cheese varieties were produced during July–October. American cheese production was up 18 percent. Output of other varieties was up 7 percent, with most major types contributing to the rise. Dry whole milk production was up about a third while whey products output posted a strong increase. Production of canned milk was about the same.

Total milk used in manufacturing for all of 1985 probably will slip past the 1983 level to post a new record. If the expected increase in milk production occurs next year, considerably more milk will be used in 1986. Most, but not all of this additional milk will go to butter–powder and American cheese plants.

Table 22.--Uncommitted CCC inventories, selected dates, 1982–85

Date	Butter	American cheese	Nonfat dry milk	Milk-equivalent, fat-solids basis
	Million pounds			Billion pounds
Dec. 1, 1982	378.4	786.0	1,216.5	15.6
Dec. 1, 1983	363.1	853.9	1,365.7	15.9
Oct. 1, 1984	255.3	767.6	1,203.6	12.9
Nov. 1, 1984	234.9	715.8	1,197.1	11.9
Dec. 1, 1984	213.5	633.5	1,139.3	10.7
Oct. 1, 1985	140.0	657.3	981.4	9.4
Nov. 1, 1985	129.9	641.0	978.7	9.0
Dec. 1, 1985				

Table 23.--Production of selected manufactured dairy products, 1984–85, with comparisons

Item	Jan.-Oct. 1984	Jan.-Oct. 1985 1/	Change
	Million pounds		Percent
Butter	928.5	1,042.7	+12.3
Cheese			
American	2,251.1	2,396.5	+6.5
Other	1,657.5	1,764.9	+6.5
Creamed cottage 2/	822.0	824.8	+.3
Canned milk	543.2	530.8	-2.3
Dry whole milk	101.2	120.1	+18.7
Nonfat dry milk	1,006.0	1,178.4	+17.1
	Million gallons		
Ice cream	766.6	764.0	-.3
	Billion pounds		
Milk equivalent 3/	64.4	69.9	+8.5

1/ Preliminary. 2/ Creamed and lowfat. 3/ Total reported manufactured products, milkfat basis.

FOREIGN TRADE AND TRENDS

Cheese Imports Down

According to data published by the Census Bureau, cheese imports were down slightly from a year earlier during January–October. Lower imports of cheese subject to quota outweighed slightly higher imports of nonquota cheese. Imports of other dairy products were reported to be larger than a year ago, but the data contain several likely errors. The milk equivalent of all imports was 2.2 billion pounds during the first 10 months, up 2 percent from a year ago.

The total milk equivalent of reported exports was 2 billion pounds during January–September, down from 2.4 billion a year earlier. The major drop came in butter exports, although cheese exports were also smaller. On the other hand, exports of nonfat dry milk were larger than last year.

World Dairy Situation and Outlook 2/

Cow's milk production in the 38 major countries is expected to increase 1 percent in 1985. The United States is currently

2/ Prepared by William C. Paddock, Livestock and Dairy Division, FAS, USDA, (202) 382–1347.

Table 24.--Wisconsin out-of-State milk shipments, 1983-85

Month	1983 1/		1984 1/		1985 1/	
	Loads 2/	Volume 3/	Loads 2/	Volume 3/	Loads 2/	Volume 3/
	Number	Thousand pounds	Number	Thousand pounds	Number	Thousand pounds
January	13	611	44	2,156	97	4,753
February	7	329	42	2,058	89	4,361
March	1	47	64	3,136	65	3,185
April	1	47	75	3,675	73	3,577
May	9	423	35	1,715	17	833
June	3	141	148	7,252	0	0
July	28	1,372	71	3,479	0	0
August	62	3,038	236	11,564	36	1,764
September	258	12,642	484	23,716	181	8,869
October	57	2,793	486	23,814	152	7,448
November	54	2,646	447	21,903	149	7,301
December	50	2,450	254	12,446		
Total	543	26,539	2,386	116,914		

1/ Changes in marketing practices in the Chicago market and adjacent Federal order markets may affect the comparability of these data. 2/ Includes out-of-State skim milk shipments. 3/ Average weight of load increased from 47,000 pounds to 49,000 after July 1, 1983.

Table 25.--U.S. dairy trade, 1982-85 1/

Year and quarters	Imports		Exports	Shipments 2/
	Cheese	Other		
	Million pounds			
1982				
Year 3/	2,128	349	3,988	602
1983				
1st	512	121	508	152
2nd	493	45	623	158
3rd	532	44	379	130
4th	736	132	614	136
Year 3/	2,273	343	2,124	577
1984				
1st	465	104	487	175
2nd	548	63	827	174
3rd	668	59	1,065	171
4th	753	82	559	114
Year 3/	2,434	307	2,938	634
1985				
1st	474	169	281	141
2nd	522	65	1,106	145
3nd	601	55	578	152

1/ Milk-equivalent, fat basis. 2/ To U.S. territories. 3/ May not add because of rounding.

registering a sharp gain in output, as is the Soviet Union, India, and mainland China. Partially offsetting these gains is a decline in the European Community's (EC). The global outlook for 1986 is for milk production to rise another 1 percent. More milk is being forecast for the United States, the Soviet Union, and India, while milk output for the EC and Poland is expected to decline. Mexico's milk output, which has been declining since 1982, is projected to recover sharply next year.

Butter and Butter Oil

World production of butter and butter oil is estimated at 6.7 million tons in 1985, down 1 percent from a year earlier. The outlook for next year is for butter output to remain near 1985 levels. It appears that the EC has reduced butter production 8 percent this year and another cutback of over 2 percent is projected in 1986. Butter production in Poland declined in 1985 and much the same situation is expected next year. New Zealand expanded butter and butter oil output somewhat in 1985, but much of the record milk production was moved into whole milk powder and cheese. Although New Zealand's milk production in 1986 may be near 1985 levels, butter production is expected to decline as the country looks to sell more cheese and whole milk powder on world markets and to bring burgeoning stocks of butter under control. In

response to larger milk output in 1985 and more expected for next year, butter production is expanding in the United States, the Soviet Union, and India.

Following sharp increases in 1983 and 1984, world butter stocks by the end of 1985 are expected to be near year-earlier levels and may decline slightly by the end of 1986. Reduced butter output for the EC in 1986 is expected to be reflected in some decline in surplus stocks. Butter stocks in the United States dropped sharply in 1984 and 1985 but are likely to accumulate somewhat in 1986 as milk production expands.

International prices for butter and butter oil declined sharply throughout 1984 and into 1985; prices may show little improvement next year. The current price for butter at North European and selected major world ports is $1,000 to $1,050 per metric ton (45 to 48 cents per pound). Substantial export sales by the EC, New Zealand, Australia, and others, at very competitive price levels, drove down butter prices the past two years, and little change is expected in 1986.

Cheese

Cheese production worldwide continues to expand and for 1985 is estimated at nearly 9.6 million tons, up more than 3 percent from a year earlier. Another 2 percent gain is projected for next year. Cheese output in the EC rose 2 percent in 1985 despite the downturn in milk supplies as less milk moved into butter and nonfat dry milk manufacture. Somewhat the same situation is expected next year as the EC expands cheese output slightly even though milk supplies decline. Cheese production in the United States is up around 8 percent this year and another substantial increase is likely in 1986.

World trade in cheese, excluding EC intra-trade, has grown sharply over the past several years but in 1985 declined a bit as the EC and New Zealand reduced exports. Although cheese prices on international markets have been relatively stable compared to butter and butter oil, they have remained well below 1983 levels. Cheedar cheese at major world ports this fall was $1,150 to $1,275 per metric ton (52 to 58 cents per pound). The outlook for 1986 is for cheese exports to expand with some improvement in world demand.

Nonfat Dry Milk (NDM)

World production of NDM is estimated at 4.2 million tons this year, down 1 percent from 1984's output. Sharp reductions in output by the EC, Poland, Canada, and Finland were mostly offset by significant increases for the United States, Australia, and the Soviet Union. The outlook for 1986 is for a 1-percent rise in world output as the United States and the Soviet Union expand NDM production. Output is expected to decline in the EC, Canada, and Oceania. World exports of NDM (excluding EC intra-trade) are estimated at nearly 1.3 million tons for 1985, a rise of 10 percent from last year's levels. The United States and Australia account for most of the gain in exports. U.S. donations of NDM to the needy abroad are up sharply in 1985 and expected to continue at high levels in 1986. However, world exports are expected to decline next year. International market prices for NDM have remained quite stable since the fall of 1984. Currently, prices are ranging between $600 and $650 per metric ton (27 to 29 cents per pound).

Casein

The production of casein in 1985 is now expected to approach the record level of 1983. Significant growth in EC output should more than offset forecasted declines in Polish and Australian production. Ireland, France, and the Netherlands will account for most of the 9 percent boost in Community output.

In particular, Irish production is rising rapidly because dairy processing plants are seeking to expand the range of products manufactured. Exports of casein into world markets will likely be up as much as 15 percent this year. Most of the major exporters are expected to show gains, with New Zealand likely to account for more than two-thirds of the increase. The EC and Poland will share in the remaining one-third. In 1986, world production of casein is forecast to decline 5 percent due primarily to a sharp fall in Polish and Irish output. Both countries anticipate a drop in milk production which will likely result in a significant decline in industrial use of milk for casein output.

NATIONAL AND REGIONAL COSTS AND RETURNS OF PRODUCING MILK

by

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Robert McElroy, and
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Abstract: For 1985, total cash receipts by U.S. dairy farmers may average about $13.72 per cwt of milk, compared with an estimated $14.44 in 1984, and slightly higher levels in the early 1980's. Total cash receipts in 1986 and 1987 are expected to be $13.44 and $13.60, respectively. Total cash expenses for 1985 are estimated at $9.62 per cwt, down about 85 cents per cwt from 1983 and 1984, but at about the same level as 1981. Total cash expenses in 1986 and 1987 are expected to decline to $9.37 and $9.18 per cwt, respectively. These returns are projected to decline slightly in 1986 from the 1985 level, but rise again in 1987. Net returns to owned inputs of $3.82 per cwt in 1985 were down 9 cents from 1984, and down 29 cents, 93 cents, and $1.17 per cwt from the 1983, 1982, and 1981 levels. Receipts above cash expenses of $4.10 per cwt in 1985 were up 16 cents from 1984, but were down 4 cents, 66 cents, and $1.10 per cwt from the 1983, 1982, and 1981 levels.

Keywords: Dairy farmers, production costs, cash expenses, costs and returns, inputs, resources, forecasts.

The Agriculture and Consumer Protection Act of 1973 directed the Secretary of Agriculture to estimate the annual costs of producing certain major agricultural commodities, including milk. To this end, the Economic Research Service (ERS) evaluates costs and returns and publishes the results. The estimates are based primarily on an early 1980 survey of 2,095 dairy farmers in the New England region and 19 other States (figure 1) representing about 85 percent of U.S. milk production. Costs and returns for recent years are based on the structure of the industry indicated by the 1980 survey adjusted by data from secondary sources.

A similar survey of some 2,200 dairy farmers will be made in 1986 to obtain primary data not readily available from secondary sources and for information on changes in the structure and technology of the dairy farm sector over the past 6 years.

Production Subregions for Milk Cost Analysis

Costs and returns are the weighted average for a region or for the United States and may differ significantly for individual farms for a variety of reasons: differences in production per cow; climate; management skills; herd size; and prices paid for feed, labor, and other inputs.

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Costs and returns for 1984 and 1985 are estimated only for producers not participating in the paid diversion program because their operations closely conform to those included in prior years. Both the returns and costs per cwt would be higher for participants in the paid diversion program than for nonparticipants. Direct payments for milk not marketed would increase the returns per cwt for participants while fixed costs averaged over reduced marketings would raise average costs per cwt.

Cash expense estimates are based on the cost structure of the dairy industry in 1979 (1980 survey) and changes in input prices since then. There are indications that some dairymen, especially high-cost producers, have made concerted efforts to reduce operating expenses in light of added expenditures and lowered returns resulting from reduced price supports and the 50-cent-per-cwt deductions authorized by Congress in the Omnibus Budget Reconciliation Act of 1982 and the 1983 Dairy and Tobacco Adjustment Act. For example, fixed facilities could be used more intensively and rations or feeding rates changed. Thus, cost of production estimates may overstate actual cash expenses and understate net returns in the mid-1980's because estimating procedures do not fully account for changing practices and structural change in the industry since the 1980 survey. Cost of production estimates and forecasts since 1979 do, however, reflect changes in costs and returns associated with changes in milk production per cow.

Milk costs and returns forecast for 1986 and 1987 assume no change in the dairy price support program, no diversion or buyout programs, and a support price of $11.60 per cwt for all of calendar 1986 and 1987. Feed costs per cwt of milk production are assumed to decline 9 percent over the 1985-87 period from the 1984 level.

Expenses

Total cash expenses for dairy producers are forecast to average $9.62 per cwt of milk in the United States during 1985, compared with an estimate of $10.50 in 1984 and $9.74 in 1981 (table 1). They are projected to be down to $9.37 and $9.18 in 1986 and 1987, respectively. Variable cash expenses projected at $7.39 per cwt in 1985 make up 77 percent of total cash expenses, with fixed cash expenses of $2.23 per cwt making up the remainder. Feed costs of $4.61 per cwt make up 48 percent of total cash expenses in 1985, and about 62 percent of total variable expenses. Feed costs per cwt of milk produced in 1985 are down 24 cents per cwt (5 percent) from both the 1984 level and the average level of feed costs over the 1981-84 period. Feed costs per cwt of milk produced are projected to be down slightly in 1986 and 1987 from 1985. Economic costs, which include a value on production inputs and resources regardless of how much equity the owner has, are projected to decline to $12.73 per cwt in 1985, a drop of 6 percent from $13.49 in 1984. They are projected to decline further to $12.50 and $12.33 in 1986 and 1987, primarily because of increased milk production per cow and lower feed costs.

Receipts

Gross dairy enterprise receipts from sales of milk, culled cows, calves, and replacements are expected to average $13.72 per cwt of milk sold in 1985, down 72 cents from 1984. The 50-cent deductions are not reflected in the 1983, 1984, and 1985 receipts, but are instead included in the estimated variable and total cash expenses. Gross receipts are projected to decline 28 cents per cwt in 1986 from 1985, but increase to $13.60 in 1987. Sales of milk account for about 92 percent of dairy enterprise revenue, while sales of culled cows, calves, and dairy replacements account for the remaining 8 percent (table 1).

Net Returns

Given estimated cash expenses of $9.62 per cwt in 1985, dairy farmers are anticipated to receive, on average, a return above cash expenses of $4.10 per cwt (table 1). This is an increase of 16 cents from 1984, but a decline of $1.10 per cwt (21 percent) from 1981. Returns above cash expenses are projected at $4.07 and $4.42 in 1986 and 1987. The substantial expansion in milk production in 1985, despite lower net returns from the early 1980's, may indicate a substantial change in the efficiency and cost structure of the U.S. dairy sector in recent years. These changes are generally not captured in ERS's current milk production costs and returns estimates.

Table 1.--U.S. milk production costs and returns, by selected items

Item	1981	1982	1983	1984 1/	1985 2/	1986 2/	1987 2/
				Dollars per cwt 3/			
Cash receipts:							
Milk	13.69	13.52	13.50	13.37	12.67	12.31	12.39
Cull cows, calves, and replacement sales	1.25	1.14	1.09	1.07	1.05	1.13	1.21
Total cash receipts 4/	14.94	14.66	14.59	14.44	13.72	13.44	13.60
Cash expenses:							
Feed	4.85	4.72	4.83	4.85	4.61	4.57	4.43
Other variable expenses	2.60	2.67	3.10	3.17	2.78	2.60	2.58
Total variable expenses 5/	7.45	7.39	7.93	8.02	7.39	7.17	7.01
Total fixed expenses 6/	2.29	2.51	2.52	2.48	2.23	2.20	2.17
Total cash expenses	9.74	9.90	10.45	10.50	9.62	9.37	9.18
Receipts less cash expenses	5.20	4.76	4.14	3.94	4.10	4.07	4.42
Capital replacement	1.64	1.57	1.58	1.56	1.57	1.58	1.57
Receipts less cash expenses and replacement	3.56	3.19	2.56	2.38	2.53	2.49	2.85
Economic costs:							
Variable expenses 5/	7.45	7.39	7.93	8.02	7.39	7.17	7.01
General farm overhead	.49	.60	.61	.61	.60	.61	.63
Taxes and insurance	.37	.35	.36	.34	.34	.35	.36
Capital replacement	1.64	1.57	1.58	1.56	1.57	1.58	1.57
Allocated returns to owned inputs:							
Operating capital (equity)	.15	.12	.12	.12	.11	.10	.09
Other nonland capital	1.10	1.04	.98	.96	.96	.97	.96
Land	.37	.36	.37	.36	.30	.29	.29
Unpaid labor	1.46	1.51	1.49	1.52	1.46	1.43	1.42
Total economic costs	13.03	12.94	13.44	13.49	12.73	12.50	12.33
Residual to mgmt. and risk	1.91	1.72	1.15	.95	.99	.94	1.27
Net returns to owned inputs	4.99	4.75	4.11	3.91	3.82	3.73	4.03

Forecast assumptions--Milk price support level held at $11.60 per cwt through 1987. Feed costs per cwt of milk production declining over the 1985-87 period by up to 9 percent from the 1984 level. Milk production per cow expected to increase about 2 percent per year. 1/ Preliminary. 2/ Forecasts. 3/ Hundredweight of milk represents all milk sold and consumed on the farm. 4/ Does not include receipts from the paid diversion program in 1984 and 1985. 5/ Includes feed, hired labor, fuels and electricity, machinery and building repairs, milk and livestock hauling, marketing, veterinary and medicine, supplies, artifical insemination--and, in 1983, 1984 and 1985, payments under the 50-cent-per-cwt deductions authorized by Congress. 6/ Includes taxes and insurance, general overhead, and interest paid on land and nonland capital.

After accounting for cash expenses and capital replacement reserves, net returns are estimated at $2.53 per cwt in 1985, compared with $2.38 in 1984 and $3.56 in 1981. They are projected to decline to $2.49 per cwt in 1986, but increase to $2.85 in 1987. Preliminary calculations indicate that net returns to owned inputs (capital, land, unpaid family labor, management, and risk) will be $3.82 per cwt in 1985, compared with $3.91 in 1984 and $4.99 in 1981 (table 1). Again, a decline to $3.73 per cwt is projected for 1986, but an increase to $4.03 is expected in 1987.

Regional Revenues, Costs, and Returns Vary

Farmers' prices, production costs, and returns to owned inputs varied greatly among regions in 1984 (table 2). For example, the price received for milk in 1984 varied by as much as $1.41 per cwt among the six regions, from $12.91 in the Pacific to $14.32 in the Southern Plains. The Pacific region received the lowest price for milk partly because of substantial increases in milk production above fluid milk needs. In addition, California's

Table 2.—Milk production cost and returns, by selected items, by regions and the U.S., 1984 1/

Item	Northeast	Upper Midwest	Corn Belt	Appalachia	Southern Plains	Pacific	All regions 2/
				Dollars per cwt 3/			
Cash Receipts:							
Milk	13.73	13.07	13.23	13.94	14.32	12.91	13.37
Cull cows, calves, and replacement sales	1.02	1.28	1.00	.93	.84	.83	1.07
Total cash receipts 4/	14.75	14.35	14.23	14.87	15.16	13.74	14.44
Cash Expenses:							
Feed	4.70	4.15	4.94	6.01	6.55	5.62	4.85
Other variable expenses	3.46	2.86	3.33	3.69	3.29	3.06	3.17
Total variable expenses 5/	8.16	7.01	8.27	9.70	9.84	8.68	8.02
Total fixed expenses 6/	1.98	3.06	2.71	1.99	2.04	1.65	2.48
Total cash expenses	10.14	10.07	10.98	11.69	11.88	10.33	10.50
Receipts less cash expenses	4.61	4.28	3.25	3.18	3.28	3.41	3.94
Capital replacement	1.61	1.83	1.80	1.45	1.14	.75	1.56
Receipts less cash expenses and replacement	3.00	2.45	1.45	1.73	2.14	2.66	2.38
Economic Costs:							
Variable expenses 5/	8.16	7.01	8.27	9.70	9.84	8.68	8.02
General farm overhead	.56	.73	.65	.56	.73	.35	.61
Taxes and insurance	.34	.40	.38	.30	.24	.15	.34
Capital replacement	1.61	1.83	1.80	1.45	1.14	.75	1.56
Allocated returns to owned inputs:							
Operating capital (equity)	.12	.11	.13	.14	.13	.11	.12
Other nonland capital	.98	1.07	1.06	.91	.62	.57	.96
Land	.30	.46	.58	.44	.25	.05	.36
Unpaid labor	1.60	1.87	1.98	1.28	.78	.39	1.52
Total economic costs	13.67	13.48	14.85	14.78	13.73	11.05	13.49
Residual to management and risk	1.08	.87	-.62	.09	1.43	2.69	.95
Net returns to owned inputs	4.08	4.38	3.13	2.86	3.21	3.81	3.91

1/ Preliminary. States within respective regions where dairy farmers were interviewed: Northeast (NY, PA, OH, New England), Upper Midwest (MN, WI, MI, SD), Corn Belt (IN, IV, IA, MO), Appalachia (KY, TN, VA, NC, GA), Southern Plains (TX), Pacific (CA, WA). 2/ Weighted average. 3/ Hundredweight of milk represents all milk sold and consumed on the farm. 4/ Does not include receipts from the paid diversion program. 5/ Includes feed, hired labor, fuels and electricity, machinery and building repairs, milk and livestock hauling, marketing, veterinary and medicine, supplies, artificial insemination, and payments under the 50-cent-per-cwt deductions authorized by Congress. 6/ Includes taxes and insurance, general overhead, and interest paid on land and nonland capital.

relatively low manufacturing milk price was applicable under the quota system and producers receive a significantly lower return for over-base (surplus) milk.

The total cash expenses varied across regions by up to $1.81 per cwt, ranging from $10.07 in the Upper Midwest to $11.88 in the Southern Plains. The Southern Plains, though receiving the highest price for its milk, ranked fourth (because of higher production costs) among the regions in net returns to owned inputs, realizing $3.21 per cwt. The Upper Midwest, received the next to lowest price for milk, but showed the highest net returns to owned inputs of $4.38 per cwt because of lower cash expenses and extensive use of family labor. The Appalachian region earned the lowest net returns to owned inputs, $2.86 per cwt, primarily because of relatively high cash expenses per cwt of milk produced.

The Upper Midwest's feed costs made up 41 percent of total cash expenses, while in the higher-cost regions (Southern Plains and Appalachia) the feed costs were 55 and 51

percent of total cash expenses, respectively. Appalachia and the Southern Plains are grain-deficit regions, forcing higher prices for concentrates to cover transportation costs from the major feed production areas. Because forages grown in the Appalachian and Southern Plains regions are generally of poorer quality than found in other regions, many producers incur higher feed costs per cwt of milk produced.

The Pacific region is well supplied with high-quality forage, which is usually purchased from growers who specialize in forage production under irrigation. Therefore, although the Pacific region also has a high feed cost as a percentage of total cash costs (54 percent), the total cash expenses per cwt of milk ranged lower (26 cents per cwt higher than the least-cost region) because the high-quality forage helped generate more production per cow (16,400 pounds) than elsewhere. The Northeast region had the next highest production per cow at 14,160 pounds.

The Pacific region has the lowest fixed costs per cwt of milk for three reasons: investment in buildings is lower because of the mild climate; facilities are used more extensively; and producers spread fixed costs over a larger base of milk production. The Pacific region, then, despite receiving the lowest price for its milk, ranked third among the regions in net returns to owned inputs, 27 cents per cwt less than the Northeast, and 57 cents per cwt behind the Upper Midwest. Residual returns to management and risk were highest in the Pacific region ($2.69 per cwt) compared with the U.S. average of 95 cents and 87 cents in the Upper Midwest.

Detailed regional costs and returns projections for 1985 are not yet available, but it is unlikely that the pattern among regions would be significantly different from 1984.

Comparison of Enterprise Returns

In terms of likely supply response and maintaining adequate resources in dairying, returns from the dairy enterprise should be compared with those in alternative farm enterprises at a point in time and over time. Cash returns from dairying were as good or better than those from most other farm enterprises and more stable over the 1981-84 period (table 3).

For example, a 40-cow dairy enterprise generated an average yearly return above cash expenses and replacement costs of about $14,500 during 1981-84. However, a 300-acre corn enterprise generated an average of about $6,000 per year; while a typical enterprise marketing 800 hogs per year lost an estimated $6,800. While economic well-being comparisons are difficult to make and should be considered with caution, ERS feels these comparisons give another dimension of useful information in attempting to project likely future milk supplies.

Table 3.--Returns above cash expenses and replacement costs, selected agricultural enterprises, U.S. average, 1981-84

Enterprise	1981	1982	1983	1984 1/	1981-84 average
	Dollars per cwt of output				
Livestock enterprises:					
Milk	3.56	3.19	2.56	2.38	2.92
Hogs, farrow-to-finish	-8.10	4.42	-5.91	-4.31	-3.48
Fed cattle	-8.65	-2.60	-7.51	-3.43	-5.55
Cow-calf	-11.99	-16.44	-18.94	-18.88	-16.56
Crop enterprises:					
Corn	.47	.05	.47	.36	.34
Soybeans	2.97	1.71	4.44	1.51	2.66
Wheat	.68	.51	.94	.30	.61
Rice	2.28	-.42	.74	.24	.71

1/ Preliminary.

Source: Economic Indicators of the Farm Sector: Costs of Production, 1984. U.S. Dept. Agr., Econ. Res. Serv., September 1985.

Observations

An evaluation of milk production costs and returns over the 1981–87 period generally indicates declining but still positive net returns to the dairy enterprise, with most of the decrease occurring prior to 1984. With this level of returns the industry has attracted sufficient resources to substantially increase milk production. With excess resources available to dairying and lack of viable farm alternatives, milk supplies and Commodity Credit Corporation purchases are expected to remain large through 1987.

Emerging milk production technology, such as nutritional supplements, bovine growth hormones, farm computers, and embryo transfers could double annual rates of increase in milk production per cow while stabilizing or lowering costs of production in the late 1980's. This would contribute to the excess milk supply problem.

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